

THE RAILWAY GAZETTE
A Journal of Management, Engineering and Operation
INCORPORATING
Railway Engineer • TRANSPORT • The Railway News
The Railway Times • Herapath's Railway Journal • RAILWAY RECORD.
RAILWAYS ILLUSTRATED • ESTABLISHED 1835 • THE RAILWAY OFFICIAL GAZETTE

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An index to the seventy-seventh volume of THE RAILWAY GAZETTE covering the issues from July 3 to December 25, 1942, has been prepared, and is now available free of charge on application to the Publisher

DIESEL RAILWAY TRACTION SUPPLEMENT

The January issue of THE RAILWAY GAZETTE Supplement, illustrating and describing developments in Diesel Railway Traction, is now ready, price 1s.

POSTING "THE RAILWAY GAZETTE" OVERSEAS

We would remind our readers that there are many overseas countries to which it is not permissible for private individuals to send printed journals and newspapers. THE RAILWAY GAZETTE possesses the necessary permit and facilities for such dispatch.

We would emphasise that copies addressed to places in Great Britain should not be re-directed to places overseas

REDUCTION IN SIZE OF PAGE

To economise in paper our readers will observe a slight reduction in the size of THE RAILWAY GAZETTE in that the size of the page has been reduced from 9 in. x 12 in. to 8½ in. x 11½ in. The type area of the page remains the same, namely, 7 in. x 10 in., but the surrounding margins have been reduced. This of course detracts from the appearance of the paper, but is one of the exigencies of the war

TO CALLERS AND TELEPHONERS

Until further notice our office hours are:

Mondays to Fridays 9.30 a.m. till 4 p.m.

The office is closed on Saturdays

ANSWERS TO ENQUIRIES

By reason of staff shortage due to enlistment, we regret that it is no longer possible for us to answer enquiries involving research, or to supply dates when articles appeared in back numbers, either by telephone or by letter

ERRORS, PAPER, AND PRINTING

Owing to shortage of staff and altered printing arrangements due to the war, and less time available for proof reading, we ask our readers' indulgence for typographical and other errors they may observe from time to time, also for poorer paper and printing compared with pre-war standards

Locomotives for Spain

WIDESPREAD interest was aroused by the publication in *The Times* of December 30, of a Reuters message from Bilbao, recording the delivery of two locomotives to the Spanish National Railways. The engines were the last two of an order for forty locomotives which had been built during 1941. The wholly disproportionate interest which was taken in this item of news appears to have arisen from a misconception; it had rather hastily been concluded that the locomotives had been built in this country. In fact, they were built at the Bilbao works of Babcock & Wilcox which is owned by the subsidiary Soc. Espanola de Construcciones Babcock & Wilcox. In view of the need for locomotive power here, the possibility of Great Britain buying locomotives from Spain, in exchange for grain or some similar commodity needed there, is an interesting suggestion; there would be complications in normal methods of payment. Babcock & Wilcox has financial interests in companies in Canada, Germany, France, Spain, Holland, Italy, Japan, and Poland. The locomotives which were the subject of the message, we understand, are part of a series that has been in building since 1920. So far as information is available in London, they are believed to be 4-6-2 standard passenger locomotives. The impression in more than one quarter in this country, that the locomotives might have been built in Great Britain, is the more difficult to understand because locomotive builders here are comparatively few in number, and no grant has been made for the materials which would be required. That the possibility, however, was seriously entertained was apparent, not only from enquiries received at this office, but also because *The Times* on the following day found it necessary to refer to its previous announcement and to explain the position. Further details relating to Spanish rolling stock are given on page 50.

Indian Railway New Year Honours

The unprecedented number of high honours conferred upon executive officers of Indian railways in this year's New Year Honours List, is at once an indication and an appreciation of the valuable war work these railways are doing. No fewer than three chief executives receive knighthoods, and a fourth the C.B.E. These three knights bachelor are Mr. R. E. Marriott and Mr. A. C. Griffin, General Managers of the two great State systems, the East Indian and North Western respectively, and Mr. J. R. Izat, Agent & General Manager of the Bengal & North Western and Rohilkund & Kumaon company-owned and worked metre-gauge railways; it is noteworthy that both the latter lines are being absorbed into the State system as from January 1, 1943. The new C.B.E. is Lieut.-Colonel E. W. Slaughter, formerly General Manager and now Managing Director of the Nizam's State Railway. Among the recipients of the C.I.E. are Mr. E. Ingoldby, Chief Controller of Standardisation, Railway Board, and Mr. A. M. Sims, Chief Engineer, North Western Railway. Mr. L. G. Bailey, Superintendent of Workshops, Bengal-Nagpur Railway, Rai Bahadur N. K. Mitra, Chief Engineer, East Indian Railway, and Mr. E. Massingham, Works Manager, Singbhum, on that railway, receive the O.B.E. Though not strictly a railway honour, the K.C.S.I.—the highest Indian knighthood—is bestowed upon Sir Thomas Guthrie Russell, K.C.I.E., Director-General of Munitions, Department of Supply, formerly Chief Engineer, then Agent of the Great Indian Peninsula Railway, and lately Chief Commissioner of Railways, Railway Board. Of these ten honours, six (including the four knighthoods) go to civil engineers and the remaining four to mechanical engineers.

Electric Power in Canada

During December, the Canadian Minister of Munitions & Supply revealed a highly important industrial development, a large power project in the northern territories of Canada, which previously had been kept a closely guarded secret. Naturally, he did not indicate the precise location, but stated that the project was larger than the Boulder Dam development in the United States by an installed capacity of 25,000 h.p. Some 10,000 workmen are engaged on the task, working at peak pressure, and the first power from the project was used 18 months after the work had been begun; so far, we have seen no official intimation of either of these dates. The eventual output of the plant is planned to exceed 1,000,000 h.p. Similar methods have been used to those which were adopted in the U.S.A. for the Boulder Dam development, but the Canadian project has had the additional difficulty of needing to contend with adverse climatic conditions such as extreme cold, snow, and ice, and with wartime scarcity of labour and materials. The United States Government allowed seven years for the completion of the Boulder Dam scheme, although actually it was finished within five years. The Canadian project is expected to be completed within 2½ years.

of which at least 1½ years have already past, as indicated by the fact that the initial power was supplied within that time. It is possible that the completion of this great electrical power scheme may have a considerable effect on proposals for Canadian railway electrification in the post-war period.

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Overseas Railway Traffics

For the 24th, 25th, and 26th weeks of the current financial year, the traffic receipts of British-owned railways in Argentina have shown an appreciable improvement over those for the corresponding period of 1940-41, although there is no indication of any relief from the burden of outgoings. Increases in gross earnings for the three weeks are:—Central Argentine £153,201, Buenos Ayres & Pacific £66,360, Buenos Ayres Great Southern £33,660, Buenos Ayres Western £24,900, Entre Rios £16,224, and Argentine North Eastern £6,936. In the 52 weeks to December 27, 1942, the Antofagasta earned gross receipts of £1,150,320, an improvement of £118,490, and among Brazilian railways the Great Western took receipts of £625,200 for the 52 weeks to December 26, 1942, an increase of £88,300. United of Havana traffics continue their wonderful rise, and the figure of £1,124,141 for the 26 weeks to December 26 shows an improvement of £621,818.

	No. of week	Weekly traffics	Inc. or decrease	Aggregate traffic	Inc. or decrease
Buenos Ayres & Pacific*	26th	108,840	+ 23,160	2,341,140	+ 297,360
Buenos Ayres Great Southern*	26th	163,060	+ 3,780	3,725,580	+ 254,400
Buenos Ayres Western*	26th	57,600	+ 12,300	1,353,840	+ 62,340
Central Argentine*	26th	137,400	+ 34,350	3,287,982	+ 540,669
Canadian Pacific	51st	1,162,400	+ 209,200	49,812,600	+ 6,925,000
* Pesos converted at 16½ to £					

Gross earnings of the Canadian Pacific for the first eleven months of 1942 amounted to £46,468,200, an increase of £6,419,800, and the aggregate net earnings of £8,598,600 showed an improvement of £425,200 over those for the corresponding period of 1941.

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Bengal & N.W. and Rohilkund & Kumaon Railways

The undertakings of the Bengal & North Western and the Rohilkund & Kumaon Railway Companies were taken over by the Government of India on January 1, 1943, and have been formed into a group with the existing Tirhut State Railway under the title of the Oudh & Tirhut Railway. These two systems, both registered as limited companies in October, 1882, were unique among Class I railways in India in receiving no Government guarantee although they had the benefit of land grants. In the case of the Bengal & North Western all the net earnings from its own line of 2,085 miles on the metre gauge belonged to the company, which also received from January 1, 1905, a proportion of the net surplus from the working of the Tirhut State Railway of 780 miles. The Rohilkund & Kumaon to the end of 1942 was working its own line of 259 miles on the metre gauge as well as the Lucknow-Bareilly Railway and State lines extensions amounting to 311 miles. Net earnings of the company's lines did not wholly belong to the company but in some respects were shared equally with the Government after certain adjustments. Along with the company's own lines the working of the Lucknow-Bareilly Railway has now passed to the State. The two systems, although possessing separate boards of directors, were worked as one metre-gauge entity from headquarters at Gorakhpur. For several years past the two companies have been exceedingly prosperous, and it has been estimated that a return to stockholders will shortly be made of £310 for each £100 of stock with an additional final distribution later. Dividends and bonus which were 8 per cent. in 1917, and 11 per cent. in 1922, were 19 per cent. for the Bengal & North Western and 18 per cent. for the Rohilkund & Kumaon in 1929, and for the last 15 months were 18 and 20 per cent. respectively.

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New Zealand Railways in 1941-42

The New Zealand Government Railways, in common with so many others throughout the world, were able to record a new record in gross revenue of £11,938,338 earned during the financial year ended March 31, 1942. The corresponding net revenue was £1,882,304, the equivalent of 2.90 per cent. on capital. The returns on capital during the years ended March, 1940 and 1941 were 1.96 and 2.64 per cent. respectively. These latest results were due largely to wartime conditions, and especially to the restrictions on sale and consumption of motor fuel which caused a considerable volume of traffic to be diverted from the roads to the railways in the Dominion. Restriction of coastwise shipping and general difficulties suffered by sea traffic, together with shortage of tonnage, also threw an appreciable additional burden of traffic on the railways. Furthermore, the policy of the Government in the co-ordination of road and rail transport

tended to increase railway earnings, which were also augmented by the carriage of military personnel and supplies. As in other countries, the railway workshops in the Dominion are being increasingly adapted for the production of munitions, and their suitability for this class of work, which has always been recognised, is now being utilised to the full extent.

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Road and Rail Passengers in the U.S.A.

In the early part of 1941, for the first time in history, the American railways carried fewer coach-class passengers between cities in the U.S.A. than were being carried by intercity buses, according to reports compiled by the Association of American Railroads. In respect of the first three months of 1942, Interstate Commerce Commission figures indicated that there were 62,072,930 railway coach passengers and 63,235,935 passengers on class I motor carriers. Actually, in January the railways were carrying more passengers than the buses, but the buses gained the lead in February and retained it in March. These figures provide what is in effect a comparison between what would be regarded in this country as third-class passenger traffic. Pullman passengers are not included in the railway figures because the bus is not generally considered as a competitor of the Pullman. A further point worthy of consideration is that the railways carry their passengers for a greater average distance than the buses, and the railways secure greater total revenue from passenger traffic than the intercity bus services. This trend in the early months of last year is of particular interest in view of the fact that petrol restrictions resulted in a substantial decline in road travel in the latter part of the year. Traffic on rural highways, for example, declined in August last (compared with the same month the year previous) 49 per cent. in what was then the petrol rationing area, and 27 per cent. in the area at that time unrationed.

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R.S.A. Transport Examinations

Examinations held by the Royal Society of Arts have been recognised in educational circles for a very long period. In November, 1851, Harry Chester submitted to the council a scheme for the formation of a union of mechanics' institutions and the provision of educational facilities. In those days public examinations were a novelty, but the society began to hold examinations as far back as 1854, at first in London, but extended to the provinces in 1857. The provision of specialised transport examinations is a much more recent development. In 1935 various road transport authorities considered the question of the education of persons engaged in the road transport industry who were not in a position to take the examination for membership of the Institute of Transport. To meet this need a scheme to cover a three-year course of study was prepared, and the Royal Society of Arts arranged to hold examinations and issue certificates to successful candidates, the certificates for the complete course to be described as a "Diploma in Road Transport." The course is arranged in three groups, each consisting of three subjects, and intended to represent a year's study. In 1939 there were over 1,000 papers worked, but the war interfered so much that the scheme was temporarily discontinued last year. It is now, however, to be resumed in 1943, and the subjects of study include aviation and railway economics.

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The Human Element

In the year 1941 749 railway employees in the United States lost their lives, and 25,000 were injured while on duty. As these figures show an increase of no less than 40 and 41 per cent. on those in 1940, and as this upward trend is still being maintained during 1942, it is not unnatural that they should be causing grave concern. Increased traffic, more frequent trains, the generally accelerated tempo of movement, and the dilution of railway staffs with inexperienced men, all play their part. It is also a matter for comment that whereas the percentage of American railway accidents due to defective track or equipment declined from 43.0 in 1923 to 33.0 in 1940 and 26.4 in 1941, those due to the failure of the human element rose in the same period from 29.6 to 36.9 and 44.3 per cent. of the total, and out of the last 100 railway accidents that were the subject of reports by the Interstate Commerce Commission, 70 were due to human failures of one kind and another. It is true that in this interval of 18 years there has been a tremendous decline in the total number of accidents in the United States; the 9,401 in 1941 were little more than one-third of the 27,497 in 1923; but the downward movement reached its lowest level in 1938, and since then the frequency of accident has been steadily increasing. In Great Britain, by way of comparison, accidents attributed to equipment failures were 18.6 per cent. of the total in 1941 and 21.3 per cent. in 1940, while those laid at the door of human failure

dropped from 58.3 to 45.6 per cent.; the latter compares with the United States increase from 36.9 to 44.3 per cent. British accidents reported increased from 276 in 1940 to 344 in 1941, but 54 of the 1941 casualties were due directly to abnormal weather conditions, as compared with only 5 in the previous year.

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Eliminating the Red Flash

In the single-lens, or "searchlight," type of three-aspect light signal, the mechanism usually adopted has been of the central-position pattern, in which the red aspect is exhibited when it is de-energised, and the yellow and green aspects are produced by the movement of the mechanism to one side or the other, by the sending of the controlling current in opposite directions through the signal coils. When the signal passes from yellow to green, or the reverse—the latter, of course, is a much less frequent change—a red flash is seen, unless means are adopted to switch out the light during the interval. Although this flash is of very short duration, some would prefer to see it eliminated; and in certain recent installations in the United States the design of the signal has been altered to effect this. The mechanism is moved progressively in two stages, representing the two controls, by two movements: one only is energised to produce the yellow aspect, and the green one appears when the other is energised in addition, on the principle of the old cylinder-drive of some forms of three-position semaphore. With this arrangement there is no flash in moving from red, through yellow, to green, but there is a yellow one in moving back direct from green to red, which, of course, ordinarily occurs only in sight of a driver in an emergency.

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The "Black Staniers"

War conditions prove the 472 Class "5" L.M.S.R. 4-6-0s of Mr. W. A. Stanier's design to have been a valuable investment. Their profile and weight distribution permit them a radius of action so wide as to cover the major part of the L.M.S.R. system; their tractive effort of 25,450 lb. adapts them to most descriptions of freight service; their admirable front-end design makes them exceptionally free-running engines, as is witnessed by speeds up to 90 m.p.h. attained with passenger trains on the Midland Division before the war; and the steaming capacity of their boilers enables them to meet very heavy demands on tractive power at times over lengthy stretches of line, without shortage of steam. A correspondent recently sent some details of a run in which a 16-coach troop train, weighing at least 510 tons behind the tender, had to be worked by one of these engines from Carlisle to Crewe. It is true that the working times of 134 min. for the 141 miles from Carlisle to Preston, and of 77 min. for the 51 miles thence to Crewe, appear relatively easy; but the former includes lifting the train over the 915 ft. altitude of Shap Summit, and the latter some steep grades between Preston and Crewe. Actually the engine climbed the 31.3 miles from Carlisle to Shap Summit in 57½ min., and was blowing off as the train reached the top of 7 miles at 1 in 125 before Shap Station. But for subsequent signal checks, the Carlisle—Preston run would have been made in about 123 min.; actually the 40 miles from Oxenholme to Preston, with a signal check before the stop, were covered in 45½ min., and the 51 miles from Preston to Crewe in 61 min., a gain of 16 min. on schedule. The driver's characteristic reply to an expression of appreciation that he required no help to get this load over Shap without assistance was "What! with a 'black Stanier'?" Why, one of these engines would pull down a row of houses! The finest job we've got." From a driver himself that is high praise indeed.

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Strangers at Home

One of the pleasures of going on leave begins in the train. It is the opportunity, as home is approached, of telling strangers the names of stations in the blackout, and of watching them with a patronising smile as they step nervously out into the awful blackness beyond the carriage windows—awful to the stranger but to his informant an easily penetrable cloak for familiar surroundings. Usually it is the member of the Forces who undergoes this ordeal by night, with the added inconvenience of being burdened like a camel. He enjoys turning the tables, but his enjoyment is often spoiled by the fact that it is he, in uniform, who is still regarded as the stranger even in his own homeland, and that the very persons to whom he hoped to act as guide and counsellor are in fact already local residents of some years' standing. Few experiences bring home more strongly how long the war has been going on. Even the familiar local train has lost the first class carriages in which it was once his discreditable ambition to travel, and if in his eagerness to alight with appropriate nonchalance the homing warrior attempts to leave on the side where there is no platform, he risks an injury to his self-esteem as serious as that to his physical well-being.

New Year Honours—Slight Recognition of British Railways

ALL British railwaymen will join in the heartiest congratulations to the Rt. Hon. Lord Leathers, Minister of War Transport, on the announcement in the New Year Honours List on January 1 of his appointment as a Companion of Honour. All the belligerent nations are realising the very vital part which transportation is playing in war strategy and Lord Leathers is discharging his extremely onerous task with outstanding success. The name of the talented Chief Mechanical Engineer of the London Midland & Scottish Railway, Mr. William Arthur Stanier, also appears in the list as the recipient of a knighthood, a well-deserved honour which will be generally acclaimed.

It is very disappointing to find, however, that Mr. Stanier is the solitary representative of senior British railway officers in the Honours List, which follows very closely the general trend of previous lists in that generous recognition is given to Government Departmental officials, but very little appreciation indeed is shown of the senior railway officials, without whose technical knowledge and constant application the railways could not possibly have accomplished the herculean tasks they have been called on to perform in the national war effort. Perhaps these officers are being prejudiced by the fact that such feats of organisation as the transport of the personnel and equipment of the original expeditionary force, the distribution of the men from Dunkirk, the conveyance of the North African force and its masses of war material to the ports, concurrently with the thousand and one tasks which they have been called on to execute in connection with the national war effort, have been carried out so smoothly that they have appeared simple! Similarly, the work in the war effort done by the locomotive and rolling stock builders has been quite unrecognised.

It is well to remember that the nation owes a very real debt of gratitude to the managements, who pledged their faith in the future by persisting in their policy of modernising plant, equipment, and methods despite very adverse circumstances, with the result that when the Government took control of the railways at the outbreak of war, they were at the highest state of efficiency they had ever reached. This enabled the railways to meet the very heavy demands which were at once made on them, but the difficulties of operating under blackout conditions brought new problems to railway officers, and the necessity for keeping the traffic moving, despite damage caused by heavy air raids, required the exercise of the utmost skill and ability throughout the day and night continuously for many months, to say nothing of the engineering skill displayed in restoring communications with the utmost speed.

The financial results for the year 1941 gave some indication of the great burden the railways were then carrying, but they successfully accomplished a considerably heavier task during 1942, notwithstanding the operating difficulties arising from the running of many more special trains daily for Government purposes. The financial results for the year will appear in due course but, impressive though they may be, they cannot possibly reveal the story of the innumerable difficulties, incidental to wartime operation, under the heaviest burden ever carried by the British railways, which have been successfully surmounted only by the proved skill and experience of railway officers. The Royal Commission on Transport remarked in 1930 that for the main business of transport the railways were indispensable. This statement has been abundantly proved during the present war and the magnitude of the task which is daily being accomplished with such efficiency by well over 600,000 railway employees surely calls for at least equal recognition with that accorded to Government officials and other branches of industry.

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Riding Comfort

IN any form of vehicle suspension, friction between members normally held apart by springs to some extent nullifies the cushioning action of these springs by allowing the smaller vibrations to pass undamped from one member to another. In a coach bogie, lateral motion between the bolster and the truck is permitted by swing hangers and here again friction may inhibit the smaller relative movements, allowing lateral displacements of the truck to be communicated without modification via the bolster to the coach body. In a recent issue of our American contemporary, the *Railway Mechanical Engineer*, reference is made to some interesting experiments carried out on coach bogies, with a view to minimising friction effects, by the Chrysler Corporation in collaboration with the New York Central Railroad, the Pennsylvania Railroad, and the Pullman Company.

Rockers were substituted for bearings in the bolster swing

hangers, and universally-jointed links were provided to connect all four corners of the truck to corresponding corners of the bolster, as a means of keeping the bolster central. In this way rubbing contacts between faces on the bolster and on the truck were eliminated. A check on more extreme lateral bolster movements was provided by Houdaille variable-resistance hydraulic energy absorbers. Finally, the laminated springs were provided with telescopic metal gaiters to retain grease and exclude moisture. The effectiveness of these modifications in improving riding comfort was determined by carrying out comparative trials on coaches with modified and standard bogies, and using an accelerometer to indicate the frequency of shocks lying between given limits. The number of lateral shocks corresponding to an acceleration of 5 per cent. gravity was reduced by 70 per cent. and those corresponding to 15 per cent. gravity were reduced by 85 per cent. Vertical shocks of these two magnitudes were reduced by 35 per cent.

G.W.R. Goods Brake Vans

BEFORE the war it was the G.W.R. practice to allocate a large number of goods brake vans to various depots or yards according to the operating requirements at those places. These brake vans bore the name of their home station to facilitate their return and the guards naturally took some pride in the appearance of their local vans. With the operation of regular and balanced services and six-day working, the return of brake vans to their home depots occasioned very little uneconomic haulage. Due, however, to the alteration in the flow of traffic caused by the war and the very large number of special trains run daily which it is impossible to balance, together with the fact that seven-day working is now the rule rather than the exception, the task of returning particular brake vans to specific depots has been found to involve cross haulage which is very undesirable under existing conditions. In addition, circumstances arising from the national war effort often occasion urgent demands for brake vans at points other than those at which a fairly large number is stationed.

In order, therefore, to secure the more economic distribution and use of the 2,500 brake vans now owned by the G.W.R., it has been decided to allocate to specific depots only those types of vans which are needed for particular requirements, such as branch lines, and so on, totalling 129. The remainder of the stock will then be distributed throughout the company's system on a day-to-day basis according to the requirements. This step necessitates the removal of the depot or yard names from a large number of brake vans and, although this alteration in practice may be regretted by the local staffs and railway enthusiasts, they may console themselves with the knowledge that it is designed to secure greater efficiency in the railway contribution towards the national war effort.

Common User of Locomotive Power

THE railways have concentrated wherever possible on methods to secure the best use of the locomotives available; one of these methods has been to examine the arrangements at points where two or more railways connect to see if by altered working any spare capacity of one railway's locomotives could be utilised by another railway. It has been found possible, for instance, for one railway to take over the local train working of another, thereby releasing locomotives for use elsewhere. The working of L.M.S.R. freight trains on the Blaenavon branch has been taken over by the G.W.R., thereby permitting two high-powered tank locomotives and trainmen to be released for work elsewhere, and making it possible for an L.M.S.R. locomotive shed to be closed. On the other hand, the G.W.R. shunting work at Swansea Valley and Six Pit Junctions has been taken over by the L.M.S.R., resulting in savings in G.W.R. locomotives and men. Much has also been done by using locomotives of one railway in between turns of duty to work the services of another railway. For example, at Manchester an L.N.E.R. locomotive, after finishing one turn of duty and before commencing another, is used to work an L.M.S.R. passenger train to Wilmslow, thus releasing an L.M.S.R. locomotive and men. An L.M.S.R. tank locomotive at Abergavenny between its own work is manned by G.W.R. staff and used for G.W.R. work, in this way saving a G.W.R. locomotive. At Dundee, an L.M.S.R. locomotive between its own duties works an L.N.E.R. freight train to Ladybank and back, saving an L.N.E.R. locomotive.

The joint use of motive power depots has enabled economy to

be effected in locomotive working. L.M.S.R. locomotives working Somerset & Dorset Joint Line trains to the Bournemouth area are stabled and serviced at the Southern Railway central shed, which has enabled the Branksome shed to be closed. G.W.R. locomotives use the wheel drop at the L.M.S.R. Gloucester motive power depot, and so do not require to be sent elsewhere for this purpose. An L.N.E.R. break-down train is used for L.M.S.R. work at Lincoln, which avoids sending an L.M.S.R. train from Nottingham. Another method of securing locomotive economy which is extensively used is for trains to be worked over other railways by the same locomotive. For example, troop trains from the G.W.R. system to places on the L.M.S.R. via Shrewsbury and Crewe are worked through to Crewe by G.W.R. locomotives and staff, thus avoiding the provision of L.M.S.R. locomotives at Shrewsbury. Trains carrying petrol from Ellesmere Port to the L.N.E.R. line over the C.I.C. route are worked throughout by L.N.E.R. locomotives. This avoids L.M.S.R. locomotives having to be provided from Birkenhead to work the trains between Ellesmere Port and Helsby, the normal exchange point with the C.I.C. G.W.R. meat traffic from South Wales for Victoria Docks, London, L.N.E.R., is normally exchanged to the L.M.S.R. at Acton, but to assist the G.W.R. in the London area the trains are now diverted to the S.R. at Reading and worked forward by the Southern as far as Willesden when they are joined by L.M.S.R. men who pilot them over the L.N.E.R. line into Victoria Docks. The approach in this field as in others is to regard the railways as one and to operate them as one unit to the best advantage; the foregoing are but a few examples of what has been achieved.

Passenger Transport Organisations

FOR some time, discussions have been proceeding between the Omnibus Owners' Association and the Public Service Transport Association regarding the possibility of closer working, or the co-ordination of the activities of the two bodies. On many occasions since the outbreak of the war, the organisations representative of the road passenger transport industry have taken joint action, and in the course of the various negotiations it seemed clear that the two associations had interests which were in the main identical. The councils of the two associations have now generally approved a scheme for the merger of the two organisations in a new association proposed to be called the Public Transport Association Incorporated; the scheme provides for winding-up both the existing associations. As soon as the final details have been settled, the two associations will call extraordinary general meetings to secure the approval to the scheme of their respective members. It is believed that the new association will be the largest organisation of its kind in the United Kingdom, for it is expected that it will be representative of at least some 30,000 passenger vehicles, in addition to the fleet of the London Passenger Transport Board.

The Public Service Transport Association is slightly the older of the two bodies now to be merged, for it was registered on July 2, 1897, as the Tramways & Light Railways Association. As this title indicates, the association was formed to promote, encourage, and facilitate the construction, working, and extension of tramways and light railways. In the early years of the present century the Secretary was the late Ernest Benedict, a pupil of Isambard Kingdom Brunel, and one-time member of the editorial staff of *THE RAILWAY GAZETTE*; but the best-known Secretary during the palmy days of tramways was his successor, A. de Turckheim, who played no small part in making the association a power in the industry. The membership of the association included tramway operating companies, financial holding companies, individuals, and manufacturing organisations. With the passage of years, many of the member companies inaugurated motorbus services, and a few purely motorbus companies joined the association. After the last war, tramway abandonment and motorbus development combined to make the motorbus the predominant factor in passenger road transport, and the association changed its name in March, 1930, to the Tramways, Light Railways & Transport Association. This title, although preserving the words of an honoured name, was a compromise that could scarcely have been permanent. In July, 1939, the title was changed again, this time to the Public Service Transport Association, a name which has not yet become very well known, by reason of wartime curtailment of activities.

In anticipation of the present merger arrangements, we recently published what we believe to be the only comprehensive article describing the development of the Omnibus Owners' Association (see our issue of October 23 last, pages 392-3). It may be recalled that the London Omnibus Owners' Federation was formed in 1899; the Provincial Omnibus Owners' Association in 1913; and the two organisations were merged in 1917 to form

the London & Provincial Omnibus Owners' Association. The name was changed in 1929 to the Omnibus Owners' Association, and since the formation of the London Passenger Transport Board, the organisation has represented mainly the large company-owned provincial bus interests, most of them railway associated, owning more than 18,000 public service vehicles. The proposed new association will comprise five classes of members, namely, corporate members, extra-ordinary members, associate members, overseas members, and honorary members. The corporate members will include both company and municipal operators of road passenger transport undertakings, and manufacturing and trading concerns interested in the industry. The extra-ordinary membership will be open to such undertakings as the London Passenger Transport Board. Associate membership will be open to individuals concerned with or interested in the road passenger transport industry, and overseas membership will be open to road passenger transport concerns operating outside the United Kingdom. The corporate members will comprise undertakings of all sizes, and trolleybus and tramcar undertakings will be catered for equally with the purely motorbus undertakings. We welcome the proposed merger as a valuable step towards the much-needed provision of a strong and authoritative voice representing the whole passenger road transport industry, and capable of acting on its behalf in the post-war period of reconstruction, which will probably be made increasingly difficult by will-o'-the-wisp political theorists.

....

Station Delays

PASSENGER train punctuality is a matter which is always considered in the United States to be of first-class importance. The majority of long-distance trains, including those which work on the fastest schedules, normally maintain an "on time" record of at least 90 per cent., in their arrivals at destinations. It is part of the American locomotive driver's duty to make up arrears of time, even though the time may have been lost as a result of circumstances not under his control, and he is held to account if he fails to do so without reasonable excuse. Most long-distance schedules have easier timings on their penultimate and ultimate stages than over the remainder of the journey, to allow some small margin of possible time recovery to ensure a punctual arrival in all circumstances. So insistent is the public demand for punctual running that, as we have recorded from time to time, public bodies with the necessary powers are in a position to compel railways to modify schedules, if necessary, to restore habitually late trains to more punctual habits. Such compulsion has recently been put by the New York State Public Service Commission on the New York Central System as to certain trains using the principal N.Y.C. main line from Buffalo and the west into New York; and similar pressure is now being brought to bear on the Pennsylvania Railroad as to its passenger services on the Buffalo and Williamsport divisions, one-third to one-half of which have been showing late arrivals of half-an-hour and more. The reason assigned for this bad record has been station delays and waiting late connections at junctions. In present war conditions, in the United States as in Great Britain, station delays are increasingly responsible for delays to train services as a whole. A recent survey by one of the most important passenger-carrying lines in the United States, extending over a year, showed that over four months station delays were the chief cause of delay to trains, and that over the remaining eight months they took second place.

The influence of station working on passenger train punctuality has lately been the subject of an interesting report by a specially-appointed committee to the American Association of Railroad Superintendents. This pointed out that two reasons for lengthened station stops are traceable to economy measures taken at the time of the depression, when the number of trains in operation was as far as possible reduced. This resulted both in the concentration on the remaining trains of a disproportionate amount of mail and express matter, and also in an increase in the number of sections carried by individual trains for different destinations, so that more time was needed for handling mail and parcels at intermediate stops, and also for detaching cars from and attaching them to the trains. The latter operation is complicated in the United States by the fact that mail, express, and baggage cars always run in American trains next the locomotive, and the rear end of many expresses is often composed of lounge and observation stock, so that through sleepers and coaches have to be marshalled into and out of the centre of the trains, so adding to the work of shunting. The report urged that the present great expansion of passenger business, resulting in the working of many trains in two or more sections, offered a

valuable opportunity for reorganising the services in general, with a view to eliminating these delays, and in particular to relieving the principal expresses as far as possible of mail and parcels traffic. In particular, the importance was stressed of teamwork between all the departments and employees concerned, and of the willingness of departmental chiefs to listen to, and if desirable, to act on suggestions received from the men as to the working of individual stations and trains.

Some of the advice contained in the report was governed by the fact that, except at important junctions and divisional points where locomotives are serviced and marshalling has to be done, the average station stop of an important American train is less than a minute. It is recommended, first, that the make-up of each train be transmitted promptly and accurately to all stations concerned, and that passengers be stationed on the platforms as nearly as possible at the point at which their particular cars will stop. To assist passengers in boarding the trains, movable platform signs indicating the probable position of cars are useful, and for the same reason it is desirable to use movable "stop" boards for enginesmen, so that they "spot" their trains at the right platform position. The station staffs should be duly located in the correct position for dealing with each train on arrival, and especially those concerned with the handling of baggage, mail, and parcels traffic, for the work at the head end of the train is responsible for most of the delays. Mail traffic, however, is not capable of much expedition, for mail clerks are required to check the receipt of each individual sack of mail. The obvious importance of marshalling trains in such a manner as to require the minimum of movement at stations where vehicles are attached and detached needs little emphasis, as also the bearing on this matter of suitable track layouts, the use of diesel instead of steam power for shunting, the heating of switches in winter to permit free movement, and so on. Double drawing up of long trains is discouraged, and platforms of sufficient length to accommodate the longest formations normally run, as well as of sufficient width to allow free movement (recommended as a minimum of 24 ft.), are considered a *sine qua non* to efficient station working. "Passenger station delays cannot be made to vanish by a magic formula," the report concludes. "If it is impossible to secure satisfactory performance on a given train . . . there is no alternative but to revise the schedule to meet the conditions, for experience has definitely proved that a dishonest schedule is one of the deepest sources of resentment of the American travelling public."

....

Madras & Southern Mahratta Railway

THE length of railway open to public traffic at the close of the year to March 31, 1942, remained at 2,939 miles, including 2,804 miles (1,092 broad gauge and 1,712 metre gauge) company's and State lines, and 135 miles (31 broad gauge and 104 metre gauge) worked lines. These figures include 4 miles of quadruple and 50 miles of double line. The company's share of divisible surplus profits after deducting Indian income tax and super tax was Rs. 11,37,373 for the year under review, against Rs. 9,01,345 in 1940-41, and the total distribution on the Rs. 50,000,000 of capital stock is 5½ per cent., the same as for each year since the revised contract of March 24, 1937, became operative. Coaching earnings were Rs. 67.56 lakhs higher, attributable chiefly to the war, which has reduced competitive transport by sea. There were heavy bookings of military personnel and baggage and many special trains were run carrying prisoners of war. The evacuation of Burma and the threat of invasion resulted in increased movement of passengers to the interior.

Competition from motor road transport was reduced, because of the shortage of petrol, and large numbers of upper class passengers visited the hill stations because of restriction on travel to the United Kingdom. Goods traffic receipts were up by Rs. 76.13 lakhs, assisted largely by the increase of Rs. 57.18 lakhs from general merchandise. Some 783,000 tons more were carried and the ton-miles worked were 14 per cent. in excess of those of the previous year. The accompanying table gives some comparative figures; 1 lakh is equivalent to Rs. 1,00,000, or £7,500.

	1940-41	1941-42
	Rs. lakhs	Rs. lakhs
Coaching earnings	275.30	342.86
Goods earnings	548.62	624.75
Gross earnings	837.17	987.01
Working expenses	433.65	463.26
Net earnings	403.52	523.75

Of the total increase of Rs. 29.61 lakhs in working expenses Rs. 20.91 lakhs were in operating expenses due to extra traffic handled, to the dearness allowance paid to the staff, and to the higher cost of stores and material. The operating ratio for the whole system was 46.94 per cent., against 51.80 per cent. in 1940-41.

LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

Gradient Posts

Essex House, W.C.2. Dec. 31

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—It would be interesting to know when and where the use of gradient posts on railways was first adopted. They were at any rate regarded by the Railway Department of the Board of Trade just a hundred years ago as on December 31, 1842, Major-General C. W. Pasley (Inspector-General of Railways) reported in reference to a journey he had taken on the North Midland Railway:—

"A very judicious plan has been adopted on this railway, worthy of general imitation, which is that on every mile-post not only the number of miles, but also the gradient is marked in a conspicuous manner, the latter being not only stated as a fraction, but as so many feet to the mile, and a thick sloping line is drawn to throw in what direction the railway ascends or descends at that point. This arrangement must be of great use to new engineers, whilst it enables any passenger to judge whether the train is going down a steep gradient, at a moderate or improper rate of speed." (Report of the Officers of the Railway Department for the Year 1842, page 236).

Yours faithfully,

KENNETH BROWN

"B.B.C. Off the Rails"

70, Rowlands Avenue,
Hatch End, Mdx. Dec. 19

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—I hesitate to break a lance with my friend, Mr. George Dow, but there is one passage in his letter to your issue of December 18 & 25 which can hardly escape criticism. Under the heading "B.B.C. Off the Rails," the writer of your editorial in the December 4 issue claimed to have been "thrilled to the marrow" at getting through Finsbury Park from Kings Cross with a 500-ton train at 60 m.p.h.; Mr. Dow declares that "such an occurrence, if unusual, is not unknown, though obviously the writer of your editorial has not been present on such occasions." Such a vague declaration offers no proof, however, and Mr. Dow surely overlooks the mass of published data concerning L.N.E.R. locomotive performance which enables the competent observer to determine, with reasonable accuracy, what a locomotive of this company can or cannot do, in any given conditions, without fortuitously being "present" himself on such an occasion.

It should be remembered that Finsbury Park is no more than $2\frac{1}{2}$ miles from the terminus. Immediately beyond the platform end at Kings Cross there begins an ascent of 1 in 110 almost to the $1\frac{1}{2}$ milepost, leaving less than a mile of level track before Finsbury Park is reached. The climb, furthermore, is through two tunnels in which the rails are invariably moist, and in which drivers, even with all the help that sand can give, have to be very careful with their regulators to avoid slipping. It is up this forbidding length that we are invited to believe that a 165-ton engine and tender can accelerate a 500-ton train—665 tons all told—to 60 m.p.h. in $2\frac{1}{2}$ miles, and that from starting "cold."

Apart from the published data referred to, I have in my possession hundreds of runs that I have carefully timed over this route during constant travelling to and from the north-east coast, extending over the past 34 years, on all the fastest trains, as well as a very large number of logs that interested correspondents have sent me from time to time. The fastest start out of Kings Cross that I can trace was on the Leeds test run of November 30, 1934, when we were through Finsbury Park in 4 min. 4 sec., and Wood Green, 5 miles, in 6 min. 25 sec. Although we were up to $71\frac{1}{2}$ m.p.h. by Wood Green, with the assistance of $2\frac{1}{2}$ miles of practically level track, the speed by Finsbury Park had not risen above 55 m.p.h.; and this was not with 500, but with 145 tons of train. On the more famous Silver Jubilee test run of September 27, 1935, when the streamlined Pacific *Silver Link* got through Peterborough in the amazing time of 55 min. 2 sec. from Kings Cross, the time to Finsbury Park was $\frac{1}{4}$ min. 42 sec., and to Wood Green 7 min. 11 sec.; at the latter point speed had risen to 70 m.p.h., and with continuous acceleration between the two stations the speed through the former cannot have exceeded 50 m.p.h. This was with a tare load of 220 tons behind the tender.

In searching through the data of ordinary day-to-day running in peacetime of the L.N.E.R. streamline trains, the highest speed that I have traced through Finsbury Park with the 220-ton Silver Jubilee is one of 57 m.p.h.; with the 278-ton West Riding Limited 50 m.p.h.; and with the 312-ton Coronation

51 m.p.h. With the heavier trains, the Flying Scotsman included, it has been a good performance even with 400 tons to attain 60 m.p.h. by Wood Green, and a most exceptional feat to do so with 500 tons; by Finsbury Park, with 500 tons, speed is normally below rather than above 40 m.p.h. in the latter conditions. The best heavy load exit that I can trace, with that redoubtable driver Sparshatt and a tare of exactly 500 tons, gave a time of 6 min. 10 sec. to Finsbury Park and 9 min. 13 sec. to Wood Green, the average speed between these two stations being 49.4 m.p.h.; I did not note the actual speed through Finsbury Park, but as speed was continuously accelerating from here to Wood Green, through the former station it was certainly under 45 m.p.h.

I have not calculated the exact figures, but over the gradients existing between Kings Cross and Finsbury Park, I think it would be proved that, even with perfect adhesion conditions, a power output of well over 4,000 i.h.p., and a d.b.h.p. of over 3,000, would be needed to accelerate a 500-ton train to 60 m.p.h. in this $2\frac{1}{2}$ miles of distance from the dead start. Such outputs have never yet been approached by any British express locomotive. I might conclude by remarking that the locomotive featured in the sound effects of this broadcast appeared to share the same opinion. When the commentator was hurling us through Finsbury Park at a mile-a-minute, the engine on which he was riding evidently had some difficulty in keeping pace with him, for by the rate of its exhaust it was doing about 20 to 25 m.p.h.! But this was, of course, only a "technical hitch" in what was in most respects an excellent broadcast.

Yours faithfully,

CECIL J. ALLEN

390, Wakefield Road,
Huddersfield Dec. 21

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—I am afraid I cannot agree with Mr. Dow that the misplacement of Scrooby was the only blemish on the B.B.C. commentary on the life of an engine driver. (Incidentally such a misplacement is characteristic of all "popular" accounts of railway journeys).

When the regulator of the locomotive was opened, a roar of steam indicated to the driver that an element (presumably superheater element) had "gone" and he suggested to the fireman that he should look into the firebox and "see the steam." Apart from the impossibility of seeing steam at firebox temperature it would seem heroic to the point of insanity to attempt to look into the firebox while the superheater was blowing steam into it.

Later on, after the train had got away behind another locomotive, we heard it labouring along at several places (including Potter's Bar) at no more than about 20 m.p.h. so that the alleged gain of time on a normal L.N.E.R. express passenger schedule was completely incredible.

Although the broadcast, as a whole was good, the fact that the L.N.E.R. authorities were supposed to have collaborated tends to saddle them with some of the responsibility for technical errors.

I am sure that not a few people would be glad to have details of any journey on which a northbound 500-ton train passed Finsbury Park at 60 m.p.h.

Yours faithfully,

W. A. TUPLIN

Old Four-Cylinder "Double-Single" French Tank Locomotive

Brighton, Sussex. Dec. 21

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—With reference to the illustration of an old French tank locomotive on page 611 of THE RAILWAY GAZETTE for December 18 & 25, 1942, you say that "none of the dimensions nor any particulars respecting the service for which the engines were built are available."

May I point out that in *Moore's Monthly Magazine* for June, 1896, on page 50 there appears a description of this engine accompanying a reproduction of the same photograph as appears in your journal. The description runs as follows:—

"Above we reproduce a photograph of one of the several remarkable express locomotives, designed for high speed by M. Petiet for the C. de Fer du Nord, of France, in 1862, and constructed by Messrs. Gouin et Cie., Paris. These engines had four cylinders, 14½-in. diameter by 20-in. stroke each; a pair of driving wheels, 5 ft. 3 in. diameter, at each end, and six carrying wheels in the centre, 3 ft. 4 in. diameter. The firebox had a grate of 20½ sq. ft., and a heating surface of 109 sq. ft.; the boiler contained 356 tubes of 1.9/16 in. diameter and 11 ft. 5½ in. long, giving a heating surface of about 1,700 sq. ft.; in addition, the steam drum above the boiler had the heated

gases taken through it before they passed to the chimney, increasing the total heating surface to 1,938 sq. ft. The steam pressure was 118 lb. per sq. in. The total weight of the engine, loaded, was 47 tons, of which 21 tons were on the driving axles. The tanks held 1,500 gal. of water, and the bunker 2 tons of coal. The working of these engines does not appear to have been so satisfactory as expected, for although they easily attained a speed of 45 miles per hour with a good train, they were troublesome, if not dangerous, on sharp curves at this speed, owing to their long rigid wheel base of 17 ft. The middle carrying axles too frequently ran hot, due, no doubt, to the same cause, and in practice the short stroke of the cylinders, combined with the small diameter of the driving wheels, were found objectionable. Some heavy goods engines constructed on the same principle, with four cylinders, 17½ in. diameter by 17½ in. stroke, and twelve drivers, 3 ft. 6 in. diameter, coupled in two sets, appear to have been more successful. The total weight of these engines, with coal and water, in running order was 59 tons. As to work, one of them is stated to have hauled a train of 21 loaded cars, weighing 263 tons, up a grade of 1 in 55½ for 2½ miles at a speed of 10 miles per hour."

Yours faithfully,

STUART MIALL

Midland Railway Service to Richmond

Bordyke, Burgess Hill,

Sussex. Dec. 23

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—The Editor's note to the letter of Canon Fellows in THE RAILWAY GAZETTE for December 18 & 25 will doubtless remove his misgivings on this subject. Following is a copy of the Midland Railway newspaper advertisement announcing the service.

"MIDLAND RAILWAY

Opening of the Cricklewood & Acton Branch

New Route between Moorgate-street and Richmond

The Cricklewood & Acton Branch, connecting the Midland and London & South Western Railways will be opened for passenger traffic on Tuesday, August 3, and on and from that date a service of trains will be run by the Midland Railway Company between Moorgate-street and Richmond, calling at Kew Gardens, Gunnersbury, Acton, Harrow-road and Dudding-hill.

For particulars see Time Tables issued by the Company.

James Allport, General Manager

Derby, July, 1875 "

If Canon Fellows has access to Midland Railway timetables for 1875 he may be able to give your readers some particulars of the service, which was between Moorgate Street and Richmond.

Canon Fellows misquotes me; I had the above advertisement before me when writing, and did not mention St. Pancras in the paragraph concerning Richmond. I wrote "The Midland trains to Earls Court originally ran to Richmond."

Your note on page 599 is correct in stating that the Midland Railway service to Richmond was withdrawn on February 1, 1876. The last paragraph of this note clearly interprets what I meant, but I should have made my meaning obvious.

Yours faithfully,

G. A. SEKON

Railways and Roadways

51, Home Close, Wolvercote.

Oxford. Dec. 27

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—I trust that you will give me the opportunity of replying to your comments on my letter which you were kind enough to publish in your issue of December 18 & 25, 1942.

In the first place I think you will agree that the railways are vital to our national existence? If you disagree, there is little to be said on the matter, except perhaps, to proceed on the lines suggested by a railroad engineer, who when asked how to make the canals pay, replied, run out the water and put down rails. This if applied to railways would read, pull up the rails and make motor roads. As you are aware, this has already happened with most tramway systems and although it might be applicable to some minor railway branch lines, the time has not yet come for its application to the railways. If on the other hand, you agree with my premises, that the railways are really necessary, I would request you to compare the prices of the ordinary stocks of the principal railways at the beginning of this century and the quotations for the equivalent stocks just before the war, and say if you are satisfied with the progress from a commercial point of view. If you are not satisfied, how can the defects be remedied? Do you suggest a policy of masterly inactivity or an attempt to solve the problem?

I am well aware that strenuous efforts were made by the railways before the war to secure equality of treatment with road hauliers in the matter of rates and charges. This, however, appeared to me to be more akin to a dispute between vested

interests rather than an attempt to give better service to the nation, and if I may say so, only the fringe of the problem. I am also aware that the railways are hampered by a series of statutory restrictions; these, however, were imposed by Parliament and can be modified by the same body. I did not suggest that "the economic limit of road transport, compared with rail, is about 20 miles." What I said was "road transport is more economic than rail transport within a radius of at least 20 miles." I think most road hauliers will agree. I did not attempt to state an upper limit as I am well aware that other factors have to be considered; for example, it is obvious that more than one goods depot would be required for the London area, whereas in sparsely populated districts the prescribed areas could be much greater.

It is obvious that additional capital would be required but I should not describe it as vast compared with the amount of capital already sunk in the railways; furthermore, no business can carry on indefinitely without periodic overhauling. You can't make omelettes (pre-war standard) without breaking eggs. If capital expenditure were made an excuse for not carrying out reforms we should still have the steam trains on the London Underground. Finally, compared with what is being spent on the war, the amount would be negligible, yet the railways are part of our national defence.

My remarks regarding the shortage of modern corridor stock were based on my observations and having had to travel in some of the non-modern type. In this connection, I might mention that in 1937 I travelled many miles on German railways and was impressed by the universal use of modern all-steel rolling stock. Incidentally I visited the exhibition at Düsseldorf and there I saw four sections of all-steel coaches, of which I made the following note:—

No. 1—All riveted. Weight 435 kg. per metre (100 per cent.).

No. 2—Part riveted and part welded. 385 kg. per metre (89 per cent.).

No. 3—All welded (special hollow struts). 280 kg. per metre (65 per cent.).

No. 4—All welded (special corrugated floor). 250 kg. per metre (58 per cent.).

In other words they had reduced the weight by over 40 per cent. by efficient construction. There is no need for me to urge the significance of these figures, but I should be glad to hear that similar experiments were made in this country.

Milk, mails, parcels, horses, and other "tail" stock at halts would present no difficulties and have not been overlooked. Every train would have its baggage car and baggage man who would deal with passenger luggage, parcels, etc., brought to the halt. For the comfort of the passengers themselves they would not be allowed to clutter up the seats and corridors; only small hand luggage, limited in size and quantity, would be permitted in carriages. Milk, in most cases, has to be collected from the various farmers and could be dealt with as outlined in (5) or (6) of the summary of my letter, or it could be brought to a halt. A little consideration will show that horses and other traffic that requires special rolling stock would present no difficulties if the railways and roadways are considered as complementary and not as opponents. I did not propose "the interposition of a large number of slow trains between express train"; what I suggested in paragraph 10 was that the long and unwieldy trains should be replaced by the equivalent of short and more frequent trains.

Finally, I did not think it necessary to adduce arguments for a unified control, as it appears to me to be axiomatic.

Yours faithfully,

R. F. FORSTER

[Professor Forster is not on very strong ground in using Stock Exchange quotations for British railway ordinary stocks as an indication of railway progress. For example, quotations for these stocks rose by 30 to 50 per cent. between January and December, 1942, without any alteration in the fixed annual sum of £43,000,000 payable to the railways under the terms of the Government agreement. Pre-war the railways were constantly incurring capital expenditure on the improvement of their undertakings but their ability to attract fresh capital was obviously conditioned by their earnings. These were unduly depressed because the railways are bound by statutory controls and regulations which do not apply to any other form of goods transport. The fact that the railways have to discharge at all times, and particularly in time of war, duties and responsibilities which far out-range those of any other form of transport was one of the grounds for their pre-war pressure for the right to compete on equal terms with other forms of transport—a right which they had failed to secure up to the outbreak of war. The extent to which improvements in pre-war railway practice can be effected, if the capital cost involved is to be financed entirely by the railways, must obviously depend largely upon their post-war relationship with road hauliers.—Ed. R.G.]

The Scrap Heap

Between Newry and Warrenpoint, County Down, there are two roads, two railway lines, a river, and a canal all running side by side for several miles.—From "Country Life."

By the munificence of Charles T. Yerkes, President of the North and West Chicago Street Railroads, the University of Chicago is to have a gigantic telescope. His instructions are to secure the largest and best telescope in the world, regardless of expense, and send the bill to him.—From the "Scientific American" of November, 1892.

An amusing controversy took place recently in the German press over the announcement that seven Cologne judges and public prosecutors had been given a short training on the tramways "to provide them with experience useful for their practice." The *National Zeitung* of November 25 treated the story as a joke and said that judges would be better employed in studying the law rather than the duties of a tram conductor. This produced a solemn rebuke in a leader in the *Frankfurter Zeitung* of November 29, which stated that it was good for judges to have first-hand experience of matters with which they often had to deal. It added that, although the principle might be carried to absurd lengths, it was desirable that all judges should be in touch with the life of the people.

"THE RAILWAY TIMES"—I

For about 58 years the firm of Odhams was associated with THE RAILWAY TIMES in one or more capacities, and Mr. William James Baird Odhams, a son of the founder of that well-known printing and publishing house, was at one time its Editor. His death, at the age of 83, on November 7, led us to re-read his biographical volume, and to extract the following notes.

About 1847 William Odhams and a fellow compositor named William Biggar, both on the staff of *The Morning Post*, set up in partnership under the title of Biggar & Odhams. In September, 1847, they secured a contract to print *The Guardian* (a Church of England ecclesiastical paper) after the bankruptcy of its first printers. Shortly afterwards *The*

Railway Times was acquired, and for 60 years the firm was associated with the enterprise, sometimes as proprietor and sometimes as printer only. The following are extracts from the volume "The Business and I," by the late Mr. W. J. B. Odhams, relating to the matter:—

"William Biggar, with or without William Odhams's help, acquired *The Railway Times* newspaper, which in those days was much interested in railway finance and construction. In the Battle of the Gauges—broad gauge 7 ft. or narrow 4 ft. 8½ in.—the paper came out strongly on the side of the broad-gauge Great Western engineer, Brunel, so that William Biggar at one time got the nickname of 'Great Western Biggar.' William Odhams, apparently stuck to the printing side of the business exclusively. How the pecuniary results from the two different enterprises were divided—if they were divided—there is no record. Nor is there any of the date when the partnership was dissolved."

A return of the stamps issued to newspapers for the twelve months from June, 1859, to June, 1860. Of course (although it does not include the unstamped issues, and this affords only a proximate estimate of circulation) it is of interest. We quote from this the average circulation of a few papers during the year.

Daily	Average from July, 1859 to June, 1860
<i>The Times</i>	10,609
<i>The Morning Post</i>	929
<i>The Morning Chronicle</i>	465
Weekly	Average from July, 1859 to June, 1860
<i>The Guardian</i>	3,857
<i>The Lancet</i>	1,393
<i>The Spectator</i>	863
<i>The Railway Times</i>	465

"The ground floor and first floor of 5, Burleigh Street, constituted the publishing offices and editorial rooms of *The Guardian*, a floor above being occupied by a housekeeper. On this floor there was a small room to which my father retired to sleep after his continuous heavy labours from 9 a.m. Tuesday till 2 or 3 a.m. Wednesday morning. It was one of my early duties to take out the two or three blankets and a sheet from a cupboard and make a sort of bed for him on a sofa. When I succeeded to his fifteen or sixteen hours of Tuesday toil, I had, until I married, a bed in *The Railway Times* first-floor room in a small house in Exeter Street close by.

(To be continued)

The subject of protecting glazed skylights is one which of late years has acquired additional importance. . . . In such structures as the Grand Central Depot in this city [New York], light is given to the interior by large skylights. These are placed in the roof of the building and are of very large area. At a height of nearly a hundred feet above the floor they are a constant menace to life. . . . Wire glass, a substance designed to overcome these difficulties, consists of rolled glass, with iron wire netting embedded in its own substance. Thus the wire is hermetically inclosed, and is secure



"We take it in turns—he's our news reader as far as Balham"—
By Neb. From "The Daily Mail"

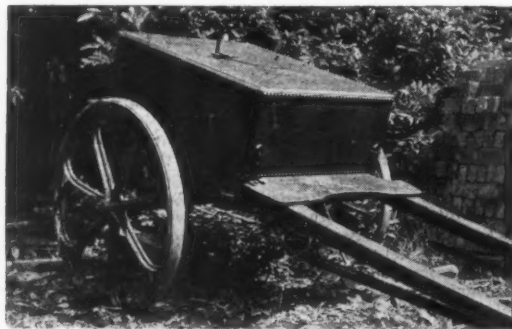
from corrosion for any length of time.—From the "Scientific American" of November, 1892.

Western Siberia is one of the greatest areas for farm produce in the world, and cold storage made it invaluable to Western Europe, yet an idiotic internal customs duty hampered competition with producers of European Russia. It was only the railway building of Witte that made these supplies readily available. . . . After agriculture comes the vast mileage of virgin forest. There was reckless wastage. On each side of the great Trans-Siberian Railway, the finest achievement of Witte, the forests were blazed by the contemptuous use of wood fuel, in a country overrunning with petroleum. The forests only began to be really profitable in the period of the Duma, the first Russian Parliament (1906-17) and the railways only began to give a profit in the same period. . . . It must be realised that belated Russia was now passing rapidly into the stage of capitalism. She had passed through her own fever of private railway-building before Witte set himself to acquire all railways for the State; and he himself, in his eleven years as Minister of Finance (1892-1903), added more mileage of track than any other country in that period.—From "Russia," by Bernard Pares.

TAILPIECE

New Year, and stars at midnight shining clear,
And frost on track and tree and track-side grass,
And still we cry as in the last New Year,
"The guns must pass!"
And still we cry, "The need is not yet past
That sped the guns in worsening times and worst.
Priority is king, and last things last.
The guns come first."
New Year, and still the sounds of war arise,
Until with peace another cry shall swell:
"The lines are clear for other merchandise.
All's well—all's well."

E. C.



L.M.S.R. Watercart from Scrap

In connection with the running of the farm at the L.M.S.R. Emergency Headquarters, a mobile watercart was wanted. A carpenter, employed on the estate, volunteered to make one from scrap which had been left by the previous tenants. Nothing had to be purchased

OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

SOUTH AFRICA

Johannesburg Station Extension

A scheme for the extension of Johannesburg Station to provide facilities for the greatly-increased traffic is under consideration. The scheme may entail the acquisition of a large portion of a well-known sports ground, and the construction of six new platforms. A deputation from the city council waited on the Minister of Railways & Harbours recently and submitted an alternative proposal for the construction of underground platforms so as to leave the surface of the sports ground intact; and it was agreed finally that, as a preliminary step, the City Engineer and the railway engineers should collaborate in drawing up a scheme which would meet the needs of the public, the municipality, and the railways. Later, a committee will be set up to examine the scheme.

Employment of Women

A considerable number of women now are employed in the mechanical workshops of the South African Railways & Harbours on munitions production, and, in certain cases, on routine railway work. In the machine shops, they are employed on turret and bench lathes, and drilling and milling machines; and, in the welding shops, on light building-up operations, cutting machines, electric arc-welding, and other activities. They also work in the trimming and coach shops, where they undertake the lighter work of stripping trimmings and the interiors of coaches, and operate sewing machines. In the tinsmiths' shops, women perform electro-plating and other work, and, in the points and crossings shops, they are employed on grinding drills and on planing, reamering, and punching fishplates. A certain number are engaged as mechanics; and adjustment and routine testing in automatic-telephone exchanges is performed largely by women.

In selecting women for employment, preference is given to those, either married or single, whose families are most in need of financial support; for example, wives or dependents of men who have been called up for active service. A policy is followed also, as far as possible, of not engaging for munitions work women whose domestic circumstances are such that they reasonably could be expected to join the Women's Auxiliary Defence Corps.

CANADA

C.N.R. and C.P.R. Revenues

For the first nine months of 1942 combined gross revenues of the Canadian National and Canadian Pacific Railways, at \$457,953,000, stood ahead of the previous peak for the corresponding period, that of 1929, by over \$70,000,000, and ahead of next highest level, that of 1928, by \$75,000,000. In the final three months of 1928, \$161,853,000 was added to combined gross revenues, against \$126,046,000 in the corresponding 1929 period, raising the gross revenues for the entire year of 1928 to \$546,569,000, against \$513,817,000 for 1929. But, even in 1941, the 1928 total was not reached by a considerable margin; it will have taken 14 years, or up to 1942, to accomplish the latter. It was the record movement of wheat in the autumn of 1928 which gave that year so great a lead, but the excess of \$75,000,000 for January-September, 1942, over the same period of 1928 indicates that 1942 will have established a new peak in gross earnings. The

C.N.R. in September far exceeded the gross revenues of that month in 1928; a sum of \$33,860,000, against C.P.R. September gross revenues of \$27,658,000, was just under the 1928 figure, but well above that of 1929.

Revenue Freight Figures

The number of tons of revenue freight loaded at Canadian railway stations during the first nine months of 1942 totalled 67,610,000, a new peak figure. Compared with the previous year, the gain was 9 per cent., and the increases over the same period of 1940 and 1939 were 29 per cent. and 66 per cent. respectively. The latter improvement was accomplished by an increase in the number of cars loaded of 37 per cent., indicating the greater use of available space which now is made.

The tonnage of revenue freight loaded by Canadian railways during the month of September last is estimated at 8,006,000 by the Dominions Bureau of Statistics. This figure compares with 7,774,000 tons in the preceding month and 7,717,000 tons in the corresponding month of last year. It is slightly below the figure of 8,027,000 tons for September, 1939, when there was unusual activity caused by the start of the war. Although the tonnage shows an increase over the preceding month, the bureau's index shows a sharp drop; the latter, which is based on the years 1935-39, is given at 132.3 for September, compared with 163 for August. In pre-war times, seasonal factors were felt more strongly than now, and in September the movement of crops and general autumn business activity materially influenced the figures. At present, however, production is maintained at a high level without being influenced by seasonal factors, and, as a result, the index numbers based on pre-war figures do not afford a satisfactory comparison with the present situation.

UNITED STATES

Women Ticket Sellers

Schools to fit college-trained girls for the business of selling tickets have been established at various centres on the Pennsylvania Railroad. In a country of the size of the United States, with its large numbers of independent railways and innumerable choices of routing, the issue of tickets is a very complicated business. At present, also, passenger travel exceeds all previous levels, and thousands of people, to many of whom railway travel is a novel experience, and who therefore require an unusual amount of help, are daily seeking accommodation for long and complex journeys, with the result that the pressure at information and reservation bureaus, as well as at ticket windows, is unprecedentedly heavy. (Some reference to the employment of college-trained girls on the P.R.R. was made in our October 30 issue). The New York Central System similarly is training women for ticket selling. The trainees are gaining experience first at the local ticket windows at the Grand Central Terminal in New York, from which they will graduate to the main ticket windows, and later to a new series of windows to be opened in the main concourse.

Staggering Business Hours

From September 8, a partial scheme of staggering hours, covering the employees of large stores, specialty shops, insurance companies, banks, and large business offices, came into force in the city of Philadelphia.

Chiefly affected of the transport undertakings were the subway, elevated railway, tram and bus companies, but the Pennsylvania and Reading Railroads, both of which conduct extensive electrified train services with multiple unit trains for the benefit of "commuters," or season-ticket holders, also stand to benefit considerably. Traffic around Philadelphia had increased greatly in consequence of petrol rationing and expansion of industry arising out of the war effort, and it has been difficult to handle the increase on the railways because of the impossibility of obtaining additional multiple-unit equipment in present conditions. Steam locomotives and coaches are available, but their introduction into the electric services would have necessitated so complete a rearrangement of schedules as to defeat its own object.

A Notable Safety Record

Pullman employees in the large Mott Haven yards at New York, where such coaches operating over the New York Central System to and from New York are serviced, have just achieved the remarkable record of completing a period of 21 months during which no accident occurred involving the absence from work of an employee. This record represents a total of 2,123,165 accident-free man-hours, and had earned for Mott Haven an award in the "No Accident Endurance Contest" sponsored by the Associated Industries of New York State.

The Human Element

The last 100 train-accident reports of the Interstate Commerce Commission show that 70 were due to human failures of one kind and another. There were 61 collisions between trains and 33 derailments. Of the 70 accidents previously mentioned, 13 were due to defective track, and five to defective equipment; 21 were caused by failures to flag correctly, 14 by excessive speed, and 11 by failure to respond to signal indications. It is noteworthy that, whereas the percentage of accidents due to faulty track or equipment declined from 43 in 1923 to 26.4 in 1941, accidents attributable to human failure increased in the same period from 29.6 to 44.3 per cent. of the total. It should be added that the number of accidents has fallen greatly in these two decades; 27,497 were recorded over the whole of the United States in 1923, and only 9,401 in 1941; but the lowest figure actually was reached in 1938, and since then, with the increase of traffic, there has been a yearly addition to the number. Indeed, in May, 1942, there were 29 per cent. more accidents than in May, 1941.

Returning to Work

War conditions have brought the operations of the Railway Retirement Board to a condition of considerable activity. In June, 1942, claims and benefits in connection with unemployed railway workers declined to the lowest level on record in the history of the railway unemployment-insurance programme. From the beginning of the great increase in traffic arising out of war conditions to the end of June, 1942, 70,000 unemployed railway workers were placed in service again, on 80 per cent. of the Class 1 railways, and in 300 different occupations; over half these restorations were made in the six months from January to June, 1942. In addition, the R.R.B. has been conducting a campaign to get back into active service, as a temporary war measure, those of its annuitants and pensioners under 72 years of age, skilled in railway work, who are able and willing to return or to take up other varieties of war work. Of 40,000 retired railway employees, half that number already have been canvassed by letter in this way.

The Ceylon Government Railway

A brief description of the system

IN view of the present strategic importance of Ceylon, a few notes on its railway system may be of interest. This is composed entirely of the Ceylon Government Railway, and, before the war, was 951 miles in length, namely, 834 miles of 5 ft. 6 in. gauge lines, and 117 miles of 2 ft. 6 in. gauge. Some of the narrow-gauge mileage, however, was subsequently closed. As the accompanying map shows, the main line runs inland from Colombo, via Polgahawela junction Peradeniya junction (for Kandy, the ancient capital, and Matale), and Nanu

and Kankasanturai are 209 and 256 miles, respectively, from Colombo. There are also important branches eastwards from Maho to Gal-Oya and onwards to the naval base of Trincomalee, and from Gal-Oya to Kalkudah and Batticaloa, half way down the east coast.

In many respects the main line is also the most interesting section in the island. The first 50 odd miles to Rambukkana are double line and the ruling grade is 1 in 132. On the next 35 miles the grade steepens to 1 in 44, this continuing as the ruling gradient up to mile 140, where

an altitude of 6,225 ft. is attained, the summit level of the line; the sharpest curve is 5 ch. radius. On the other broad-gauge lines the ruling grade is 1 in 132, except for a few short lengths of 1 in 60 and 1 in 80. The 2 ft. 6 in. gauge Nuwara Eliya line has 1 in 24 grades and 80-ft. radius curves.

Most of the broad-gauge lines are laid with 80-lb. or 88-lb. flat-bottom rails on Jarrah or local hardwood sleepers, without bearing plates. As well as the 50 miles of main line, 27 miles of the South Coast line are double; all stations on these sections are fully signalled and interlocked, as is also the main line (single) as far as Kandy. Double line block working is on the lock and block system, and track circuiting is used at the more important stations. Tyer's tablet block working is in force on single-line sections.

station and wagon depot handles most of its goods traffic, except import and export traffic, dealt with at Colombo Port. There is a heavy suburban passenger traffic between Fort and Mount Lavinia (9 miles), with five intermediate stations serving residential areas. Block sets of nine bogie coaches are mostly used.

Unfortunately, the Ceylon Government Railway has been severely hit by road competition in recent years. With comparatively short leads and an excellent road system to contend with, it has sustained heavy financial losses year after year, despite the recommendations of commissions and drastic curtailments of expenditure in all directions. During 1939-40, for instance, gross receipts totalled Rs. 17,107,451, whereas ordinary working expenses amounted to Rs. 21,157,355; the deficit of Rs. 4,049,904 had to be met from the revenues of the Colony. The war has diverted a certain amount of sea-borne traffic from India to the rail and ferry route, but this has not appreciably improved the financial situation. On the other hand, due to lack of shipping, the fuel position on the island has on several occasions been acute, coal stocks having almost run out. Wood is now being burnt to some extent. Suitable timber for sleeper renewals has also been scarce, and maintenance problems in general have been far from easy, due to normal reliance upon shipping for supplies. The necessity for serving the naval, land, and air forces based on the island has recently emphasised the importance of the railway system, but little precise information is at present available.

BRITISH STANDARDS INSTITUTION.—The range of British standards is so diverse, and the number of war-emergency issues is so large, that no printed list of standards can be up-to-date. The latest information about the issue of new and revised British standards, of which there are at present over 1,000, can be obtained from the B.S.I. Library, at 28, Victoria Street, Westminster, S.W.1. These standards may be studied in the library between the hours of 10 a.m. and 5 p.m. from Mondays to Fridays, and at other times by appointment. The B.S.I. Library also contains a large selection of specifications prepared by the standards bodies in Australia, New Zealand, South Africa, Canada, the U.S.A., Argentina, Sweden, France, Germany, and other countries. Extracts from specifications may be made, if desired, and copies of the overseas specifications may be borrowed. The following institutions maintain a complete set of British standards:—

London—British Museum, City & Guilds Engineering College, Kings College, Science Library (Science Museum), and University College.

Glasgow—Glasgow University, Royal Technical College, and Mitchell Library.

Edinburgh—Edinburgh University, and National Library of Scotland.

Cambridge—Cambridge University (Engineering Laboratory), and University Library.

Oxford—Bodleian Library.

Nottingham—University College, and Central Public Reference Library.

Newcastle-on-Tyne—Armstrong College, and Central Public Reference Library.

Birmingham—Municipal Technical School, and Central Public Reference Library.

Leeds—University of Leeds, and Central Public Reference Library.

Manchester—Victoria University, Central Public Reference Library, and College of Technology.

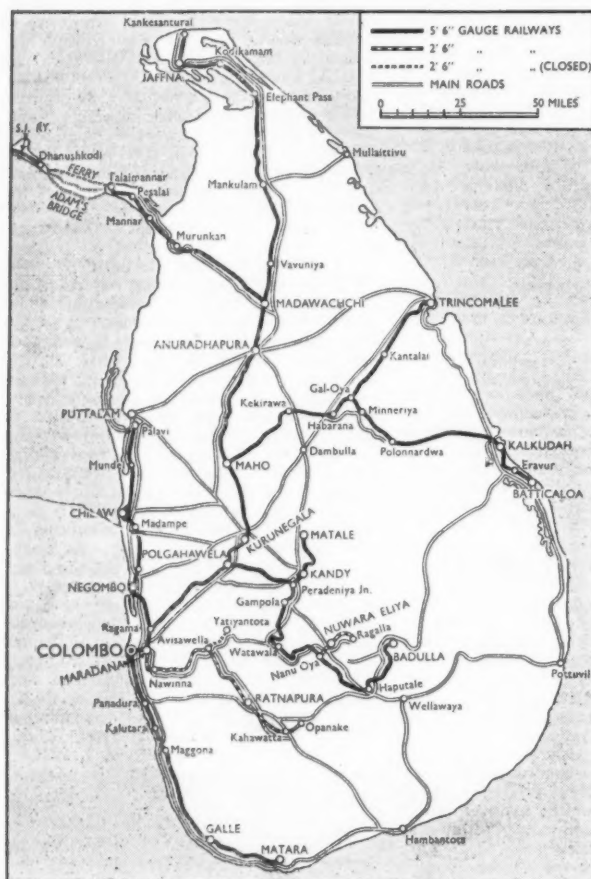
Dublin—Trinity College.

Aberystwyth—National Library of Wales.

Cardiff—Central Public Reference Library.

Middlesbrough—Central Public Reference Library.

Sheffield—Central Public Reference Library.



Sketch map of the railways and main roads of Ceylon

Oya (for the famous hill station of Nuwara Eliya), to Badulla, a distance of just over 180 miles.

There are, however, other important lines running from Colombo northwards along the coast to Puttalam (74 miles), and down the coast to Galle and Matara (98 miles). Also, last but not least, there are the two northern lines from Polgahawela to Madawachchi, there to bifurcate towards Talaimannar—whence runs a ferry steamer service to Dhanushkodi, on the South Indian Railway—and towards Jaffna and Kankasanturai, on the extreme northern tip of the island. Talaimannar

Locomotives, Railcars and Stations

The principal types of locomotive are 4-6-0 and 4-8-0 tender engines and a 4-6-0 tank engine, and there are numbers of Sentinel steam, and both petrol and diesel, railcars in service. The main workshops are situated at Ratmalana, 11 miles south of Colombo, and employ about 3,000 men.

The two principal stations in Colombo are Fort, a purely passenger station, and Maradana, the junction of the main and coast lines; the latter has the important locomotive depot and carriage sidings serving the capital. Colombo goods

Southern Railway Electrification
Details of the development of the system for suburban and main-line operation

ALTHOUGH the Southern Railway electrification may be traced back to the first L.B.S.C.R. single-phase proposals, or even earlier if sub-surface lines are included, the nucleus of the present network was consolidated in 1929 when the high-tension single-phase system disappeared and all suburban lines were standardised on the third-rail 660-volt d.c. principle. Once a single system was in vogue, conversions further afield be-

came more practicable propositions, and it is from that time that main-line conversions date. The first was the Brighton and Worthing extension, which it may be recalled was opened in two stages, the first (to Three Bridges) in 1932, and the second (to Brighton and Worthing) at the beginning of 1933.

Before the beginning of main-line electrification, the Southern Railway electrified suburban system comprised approxi-

mately 300 route miles (800 track miles) fed through 48 rotary converter substations with an aggregate capacity of about 200,000 kW. These lines were operated by 1,813 coaches running 20½ million train-miles, consuming 326,000,000 kWh of energy, and carrying 218,000,000 passengers a year.

Before the outbreak of war the system had been more than doubled, and 709 route miles (1,764½ track miles) were being operated electrically. These were fed through 158 substations, and were worked by 3,189 electrically-operated coaches running 41½ million track miles a year.

In various published figures giving route and track mileages for the Southern Railway there have been slight discrepancies by reason of the fact that some tables have given figures referring only to steam lines converted to electric traction, whereas others have given total mileages including some sections of line which were operated electrically from their opening. For the sake of precision, we recently asked Mr. George Ellison, Chief Engineer, Southern Railway, to supply us with classified figures applying to the period immediately before the outbreak of war, and these are shown in the accompanying tables.

The first table gives the route and track mileages, together with sections of line and years of opening for the whole Southern Railway electrically-operated system, whether converted from steam traction or first built for electric operation.

The second table indicates those lines which have been operated electrically from their opening, and the subtraction of the total figures in this table from those in the first table gives the figures of conversion from steam to electricity.

In addition, the third table shows the mileage, with dates of conversion, of these lines which were originally electrified on the high-tension single-phase system adopted by the old L.B.S.C.R., and subsequently extended by the Southern Railway on the Central Section. They were all eventually converted from a.c. to d.c. for purposes of standardisation, as mentioned above.

ROUTE AND TRACK MILEAGE AND DATES OF OPENING OF VARIOUS SECTIONS OF THE SYSTEM TO YEAR 1939

Dates of opening	Section of line	First track and route		Total track, including sidings	
		M.	Ch.	M.	Ch.
1898	Waterloo & City Line	1	46	3	52
1909	South London Line	8	51	25	05
1911	Victoria and Crystal Palace	10	14	37	16
1912	Peckham Rye and West Norwood Jc. ; Tulse Hill and Streatham Hill	3	43	7	06
1915	Wimbledon and East Putney	3	36	7	44
1916	Kingston Roundabout and Shepperton ; Hounslow loop ; Maiden Jc. ; Hampton Court ; Hampton Court Jc. and Claygate	47	04	161	50
1925	Balham and Selhurst via Norbury ; Crystal Palace and Sutton ; Norwood Jc. and Coulsdon ; Victoria and Orpington ; Holborn Viaduct and Shortlands Jc. ; Nunhead and Crystal Palace ; Raynes Park and Dorking ; Leatherhead and Eppingham Jc. ; Claygate and Guildford ; Elmers End and Hayes	85	61	223	05
1926	Charing Cross and Cannon Street to Orpington ; Bromley North, Beckenham Jc. and Addiscombe ; North Kent, Bexleyheath, and Dartford Loop Lines	56	73	155	10
1928	London Bridge, Tattenham Corner and Caterham ; Sydenham and Crystal Palace Low Level ; Tulse Hill and Norwood Jc. ; via Thornton Heath ; Norwood Jc. and Epsom Downs	30	02	93	05
1929	Herne Hill and Wimbledon via Haydons Road ; Crystal Palace Low Level and Beckenham Jc. ; Streatham and Epsom, via Mitcham ; Wimbledon and South Merton	20	04	27	56
1930	South Merton and Sutton ; Whitton Jc. and Windsor ; West Croydon and Wimbledon ; Dartford and Gravesend Central	29	41	56	64
1932	Purley and Coulsdon North to Reigate and Three Bridges	17	50	68	45
1933	Three Bridges to Brighton, and West Worthing ; Courthill Loop	34	15	88	30
1934	Bickley Jc. and St. Mary Cray	3	29	5	34
1935	Orpington and Sevenoaks ; St. Mary Cray and Sevenoaks ; Wivelsfield to Seaford, to Eastbourne, and to Hastings, and Ore ; Brighton to Lewes ; Haywards Heath to Horsted Keynes ; Woodside Jc. to Sanderstead ; Nunhead Jc. to Lewisham	86	30	183	48
1937	Staines to Weybridge, and Byfleet Jc. ; Surbiton to Guildford, and to Alton ; Guildford to Portsmouth	95	11	240	20
1938	Motspur Park to Tolworth ; Dorking to Horsham ; Three Bridges to Horsham ; West Worthing to Arundel Jc. ; Horsham to Bognor, to Littlehampton, and to Havant	77	35	172	34
1939	Gravesend to Maidstone West ; Swanley Jc. to Gillingham ; Oxford Jc. to Maidstone East ; Virginia Water to Reading and to Ash Vale ; Guildford to Ash Vale ; Tolworth to Chessington South	98	13	208	05
	Grand total to year 1939	708	78	1,764	49

These figures are for lines owned and worked by the Southern Railway Company. The total does not include lines owned by the company but worked by other companies

LINES ELECTRIFIED FROM THEIR OPENING

Dates of opening	Section of line	First track and route		Total track, including sidings	
		M.	Ch.	M.	Ch.
1898	Waterloo & City	1	46	3	52
1929	Wimbledon to South Merton	1	35	2	72
1930	South Merton to Sutton Jc.	3	62	7	50
1933	Courthill Loop (Lewisham)	0	22	0	44
1938	Motspur Park Jc. to Tolworth	2	25	4	55
1939	Tolworth to Chessington South	1	57	3	39
	Total	11	07	22	72

LINES CONVERTED FROM A.C. TO D.C.

Dates of conversion	Section of line	First track and route		Total track, including sidings	
		M.	Ch.	M.	Ch.
1928	London Bridge to Battersea Park Jc.	7	34	21	21
1928	Crystal Palace Jc. towards Sydenham	0	28	1	10
1928	St. James's Jc. to Sutton	5	43	12	74
1928-29	Windmill Bridge Jc. to Coulsdon North	5	19	23	4
1929	Victoria to Balham Jc.	4	72	21	40
1929	Balham Jc. to Crystal Palace Jc.	3	54	9	22
1929	Crystal Palace Jc. to Norwood Jc. North	1	27	3	35
1929	Norwood Jc. North to Selhurst	1	41	7	19
1929	Peckham Rye Jc. to West Norwood Jc.	2	75	6	16
1929	Tulse Hill Jc. to Leigham Jc.	0	26	0	52
1929	Balham Jc. to Selhurst, Windmill Bridge Jc., Gloucester Road, and St. James's Junctions	6	58	24	60
	Total	39	77	131	33

SWITCHGEAR PRACTICE.—Much literature is available on switchgear of various types and for a variety of purposes, but up-to-date information on this extensive subject has not hitherto been made readily available in a single readable volume of moderate proportions. This deficiency has now been made good, for a book having the above title by Arthur Arnold, A.M.I.Mech.E., A.M.I.E.E., has been published at 22s. net by Chapman & Hall Limited, and this brings together descriptive material relating to all forms of d.c. and a.c. switchgear, including motor starters, together with information on instrumentation and control systems. Having had both power station and factory engineering experience, the author is able to keep clearly in mind the points of view of the user of electrical energy and the supplier. Nor have the quite complicated mechanical operating features of modern switchgear been overlooked; these are important, though too often taken for granted by engineers inclined to confine their interests to the electrical side. The book contains much information relating to gear suitable for substations and engineering shops on railways.

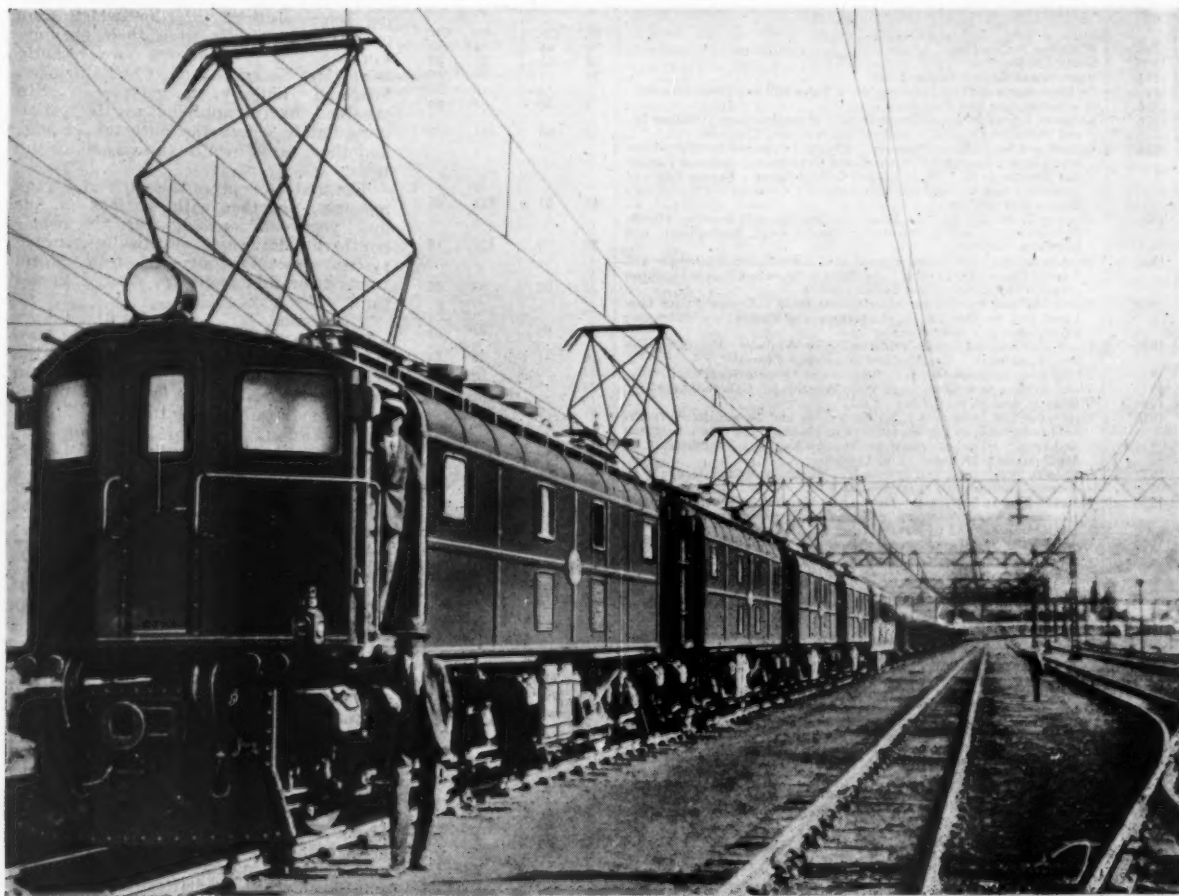
Electric Locomotives for the South African Railways

Ten more multiple-unit electric locomotives have been ordered by the South African Railways for service on the Natal lines

METROPOLITAN - VICKERS Electrical Co. Ltd., Trafford Park, Manchester, has received an order for 10 double-bogie, 1,200 h.p. electric locomotives for operation on the 3,000 volt d.c. electrified lines of the South African Railways in Natal. They are to be similar in all respects to those previously supplied to those lines by the same builders (see THE RAILWAY GAZETTE, July 23, 1937, page 174) and will bring the total to 174. Delivery of the new locomotives is to begin in August or September, 1943. The mechanical parts are being provided by Beyer Peacock & Co. Ltd., Gorton.

Each unit is comparatively short, as numerous small radius curves have to be negotiated, but the use of several coupled units enables the equivalent of a powerful locomotive to be obtained with the maximum flexibility called for by the conditions along the route. A single unit is generally sufficient for hauling a passenger train. Regenerative working is employed and has been found extremely useful. It was introduced in 1926 and a special test run from Glencoe to Pietermaritzburg with a load of 1,500 tons and back with one of 800 tons used 15,200 kW-hr. input to the main motors and

coupling arrangements on their outer headstocks, this confining the hauling stresses to them. There is a driver's cab at each end, two machinery compartments with a high-voltage chamber between, and a side corridor. The power equipment consists of four axle-mounted 300 h.p. motors, wound for 3,000 volts to earth, permanently connected two in series on each bogie and driving through single-reduction gearing. The two bogies are operated in series or parallel, with main field tapplings for additional speed control. There are two motor-generator sets, one providing the 100 volt supply for the control, lighting, and heating circuits, for the air compressor, and brake exhaustor. The other, with a variable voltage generator, serves as exciter for regeneration. Both sets drive blowers for the forced ventilation. The control equipment is electro-pneumatic, of unit con-



Four Metrovick locomotives connected in multiple, for operation by one driving crew, drawing a train of 2,040 tons

Manchester. The leading particulars of each locomotive unit are as follow:—

Weight in working order	69 tons (all adhesive)
" on each axle	17½ tons
" of mechanical parts	41 tons
" of electrical parts	28 tons
Gauge	3 ft. 6 in.
Length over buffers	43 ft. 8 in.
Width overall	9 ft. 4 in.
Dia. of wheels	4 ft. 0 in.
Rigid wheelbase	9 ft. 3 in.
Total wheelbase	30 ft. 11 in.
Height over collector (lowest position)	12 ft. 11½ in.
Total tractive effort	Hourly, 21,200 lb. at 21½ m.p.h.
on full field	Continuous, 16,400 lb. at 23 m.p.h.
	Maximum, 39,000 lb.
Maximum safe speed	45 m.p.h.

gave 4,800 kW-hr. output from them, indicating that the energy made available by regeneration on goods trains alone, with a daily coastwise weekday traffic of 30,000 tons, would be 22½ million units a year. More than this daily tonnage has been moved and considerable economies, not only in the recovery of energy, but in lessened wear and tear on brake equipment, have been realised.

The superstructure of each locomotive unit rests on two bogies, coupled at their inner ends by a special form of articulating joint and with centre buffing and

struction type, and current is collected by pantographs with double pans held in contact by springs attached to the lower framing and stretched by compressed-air cylinder drives. The main circuit passes from the pantographs through isolating switches, lightning arrester, and choke coil to the overload relay and line switches. From these it passes through the starting resistance, or its short circuiting switches, and the various grouping switches to the motor armatures, then to the reversing switches, fields and, via the frames and wheels, to the rails.

Indian Railways Central Standards Office—I. Mechanical and Civil Engineering Branches

A brief review of their functions and achievements

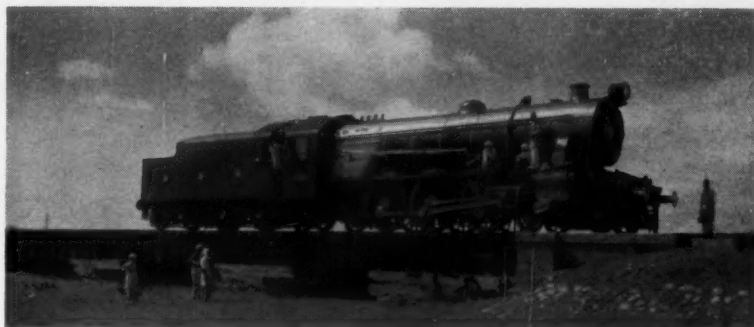
IN 1930 the first two branches of the Central Standards Office under the Indian Railway Board were inaugurated to deal with civil and mechanical engineering standards. Later a research branch was opened to assist in the production of standard designs and specifications for all materials, plant, and rolling stock used by Indian railways. Close liaison is maintained with the railway administrations by seven standards committees, which consist of experts in various branches of engineering from all the principal lines, and which work under the auspices of the Indian Railway Conference Association.

In 1923 this association decided that a locomotive and a carriage and wagon permanent standing committee should be formed. The former, in addition to dealing with progress in and variations from standards, recommends additional locomotive types suitable for burning low grades of fuel. Some 21 standard types of broad-, metre-, and narrow-gauge engines have been designed.

Scope of the Branch

The Mechanical Branch of the Standards Office is responsible for improving the design, fittings, and components of standard locomotives, as shown to be desirable by experience on the road, and with a view to increasing their efficiency and availability and to reducing maintenance and working costs. To this end, the branch co-ordinates all trials of new and experimental designs and fittings, and submits their results to the Locomotive Standards Committee and Railway Board. Each of the larger railways is usually represented on this committee by its Chief Mechanical Engineer, and the Assistant Chief Controller of Standardisation (Mechanical) is ex-official permanent secretary.

In recent years the Central Standards Office has evolved new designs of experimental types of locomotives to meet specific and changing traffic requirements, such as the "WL" Pacific class for working the broad-gauge mail and express services over the North Western Railway



Bridge testing with an "XC" class, the heaviest of the standard Pacifics—which includes impact tests with the coupled wheels slipping or spinning—carried out for the information of the Central Standards Office

main line between Lala Musa, Rawalpindi, and Peshawar, where long 1 in 100 grades are encountered and curvature is severe. Other types designed are 2-6-4, 2-4-2, and 2-6-2 tank engines used mainly on the East Indian and Great Indian Peninsula Railways.

The Mechanical Branch has been responsible also for supervising and co-ordinating a vast amount of research, service trials, design and standardisation of locomotive and carriage and wagon axle bearings, lubricants, and methods of lubrication.

Carriage and Wagon Standards

The Carriage & Wagon Standards Committee has approved the designs—prepared in the Standards Office—for 41 types of wagons of various gauges and 7 types of carriage underframes. All fittings and parts of wagons have been standardised by the preparation and issue of over 1,500 assembly and part drawings for wagons, over 950 for underframes, and 190 for vacuum-brake gear common to carriages and wagons. As a result of this complete standardisation, every part of a wagon can now be manufactured in India, and only

a few items, such as electrical equipment, of carriages, have still to be imported. Standard designs of layouts for lower-class coaches and coaching brake vans have been completed recently, thus insuring that all railways follow the best construction available, and that approved

amenities and facilities are afforded to lower-class passengers all over India. The part drawings prepared in this connection are applicable not only to recent carriage and wagon designs but to the older types of wagon also.

Civil Engineering Branch

On the civil engineering side, the Central Standards Office is responsible for producing standard designs for track fittings and tools, signalling and interlocking equipment, bridges and structures of all kinds used by railways. It also compiles codes and manuals, such as the Railway Bridge Rules and Signal Manual, with the assistance of (a) the Track Standards Committee, (b) the Signalling & Interlocking Standards Committee, and (c) the Bridge Standards Committee. Designs have been standardised for a large range of track and signal fittings, and others are constantly under trial with a view to standardisation.

Designs for all mild steel bridge girders up to 80-ft. span were standardised some years ago, and others are being prepared for high-tensile steel spans. Designs for platform shelters, goods and running sheds, turntables, and foot overbridges are also to be standardised.

Track Improvements and Various Rules and Codes

Trials are being carried out on various railways of welded rail joints of different types, staggering of joints, heat treatment of crossings and fishplates, various methods of protecting steelwork, and devices for preventing sabotage. All these are closely watched by the Central Standards Office, which also recommends other trials from time to time.

Among the codes of practice already issued, are those for the design and fabrication of steel bridge girders, steel structures other than bridges, reinforced concrete bridges and structures, masonry arch bridges, bridge piers and abutments, and electric arc welding. The Railway Bridge Rules, laying down the loads for which bridges have been designed, and their application, have recently been brought up to date, and the revision of the Signal and of the Track Manual is in hand.

(To be concluded)



All kinds of auxiliary locomotive equipment is thoroughly tested under the auspices of the Central Standards Office, as for instance on this "HG/S" 2-8-0



Scene during the construction of a railway from Lake Alaotra, Madagascar



View from Antsirabe Station, Madagascar, the southern terminus of the line from Tananarive



Sappers examining the first bridge on the railway from the port of Tamatave to Brickaville



A peacetime view of the railway passing through the Sabotsy region, Madagascar



Light locomotive brought by sea and river to Brickaville by British Forces in the recent Allied occupation



Two pilot wagons preceding the first British train from Tamatave to Brickaville as a precaution against mined track

THE RAILWAYS OF MADAGASCAR AND THE ALLIED OCCUPATION

RAILWAY NEWS SECTION

PERSONAL

At the request of the Ministry of Supply, Sir Charles Wright has been appointed Acting Controller of Iron & Steel in place of Sir John Duncanson, who has undergone an operation.

L.N.E.R. APPOINTMENTS

The L.N.E.R. announces the following appointments:—

Mr. T. F. Cameron, Assistant Divisional General Manager, North-Eastern Area, to be Assistant to the Chief General Manager (Works), with office at headquarters.

Mr. J. Ness, Assistant Divisional General Manager, Scottish Area, to be Assistant Divisional General Manager, North-Eastern Area.

Mr. W. Guy Jones, Road Motor Engineer, Southern & North-Eastern Areas, to be Road Motor Engineer for the whole system under the Chief Mechanical Engineer. As from January 1 his office has been transferred from Holloway to the Chief Mechanical Engineer's Headquarters Office, Doncaster.

Mr. H. J. Birkbeck has been released from his duties as District Goods & Passenger Manager, Peterborough, as from January 4, to take up special work in connection with Road & Rail Conference matters.

Mr. A. F. Moss, Assistant District Goods Manager, Newcastle, to be District Goods & Passenger Manager, Peterborough.

Mr. H. Leslie Boyce, M. P., Chairman of the Gloucester Railway Carriage & Wagon Co. Ltd., has been appointed Managing Director.

Mr. Stanley Kennedy and Mr. P. G. Stone-Clark have resigned from the board of directors of the Yorkshire Traction Co. Ltd., and Mr. Raymond W. Birch and Mr. H. Kingsbury have been appointed Directors. Mr. Birch has been elected Deputy Chairman. Mr. J. S. Wills is Chairman.

The Minister of Supply has appointed Mr. C. Maxwell Norman to be Controller of Ball & Roller Bearings.

L.M.S.R. APPOINTMENTS

Mr. J. G. Dunlop, Head of Section, Chief Accountant's Office, Glasgow, to be Assistant to Chief Accountant (Scotland), Glasgow, *vice* Mr. V. Gee, retiring.

Mr. W. Handy, Assistant (Outdoor Machinery), C.M.E. & E.E. Department, Derby, to be Principal Assistant for Outdoor Machinery, C.M.E. & E.E. Department, Derby, *vice* Mr. J. Boyd, retired.

Mr. C. E. Bachelor, District Controller, Nottingham, to be District Controller, Kentish Town, *vice* Mr. J. H. Westwood, promoted.

Mr. F. Acton, District Controller, Peterborough, to be District Controller, Nottingham.

Mr. W. C. Bullenger, Assistant Divisional Controller (Freight Services), Derby, to be District Controller, Peterborough.

Mr. H. Irons, Stationmaster, Ardrossan, to be Stationmaster, Dundee West, *vice* Mr. J. A. Stewart, retired.

Mr. W. A. Stanier, M.I.Mech.E., M.I.Loco.E., Chief Mechanical Engineer, L.M.S.R., who has received the honour of Knighthood in the New Year Honours, is at present on the staff of the Minister of Production, in the capacity of a full-time Scientific Adviser. Mr. Stanier is the son of the late Mr. W. H. Stanier, Chief Stores Superintendent, G.W.R., and was born in 1876. He was educated at Wycliffe College, Stonehouse, and entered the Swindon

the Government-owned railways in that country; he returned from India in the spring of 1937. Mr. Stanier was appointed a member of the Government of India committee of inquiry into the design and purchase of Pacific locomotives in July, 1938. He is a Member of Council, and has been a Vice-President, of the Institution of Mechanical Engineers; and he was President for the session 1941-42. He was President of the Institution of Locomotive

Engineers for the session 1938-39. In July, 1939, he was elected a member of the Permanent Commission of the International Railway Congress Association. As recorded in our September 11, 1942, issue, the Minister of Production in that month appointed Mr. Stanier to his staff, as a member of a panel of full-time Scientific Advisers; during his absence, Mr. C. E. Fairburn is Acting Chief Mechanical Engineer, L.M.S.R. Mr. Stanier is Chairman of the R.E.C. Mechanical & Electrical Engineers Committee.

Mr. Kenneth Lampson has been appointed Assistant Controller, Iron & Steel Supplies Department, Iron & Steel Control, Ministry of Supply.

Mr. E. F. L. Sturdee retired on December 31 from the position of Assistant Passenger Traffic Manager, Montreal, Canadian Pacific Railway, after nearly 50 years' service. He is succeeded by Mr. G. E. Carter, General Passenger Agent, Montreal.

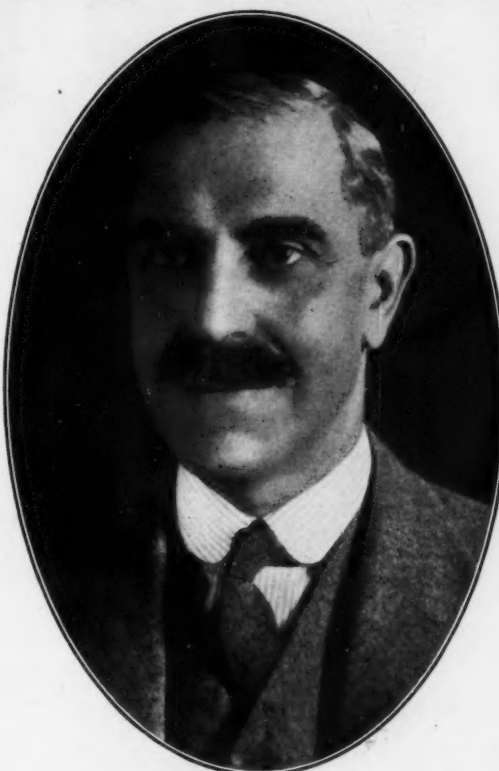
The late Mr. Otto Mueller, who was Managing Director of the Pressed Steel Co. Ltd., and a Director of the Budd International Corporation, Philadelphia, U.S.A., left estate in England valued at £43,832.

Colonel Eric Gore-Browne, D.S.O., whose appointment as Controller of Rubber was recorded in our last week's issue, is continuing his duties as Deputy-Chairman, Southern Railway Company.

Mr. John A'Hern, Clerk in charge of the Lost Property Office at Paddington Station, has retired after completing 44 years' service with the G.W.R. He was formerly Clerk in charge of the G.W.R. booking and receiving office in King William Street, E.C. Mr. A'Hern is one of the original members of the Gaelic League in London, and is a well-known Rugby enthusiast.

Mr. S. B. Carter, O.B.E., retired from the position of Outdoor Superintendent for the Chief Commercial & Chief Operating Managers, L.M.S.R.

Mr. J. H. Parker, who, owing to ill-health, has retired from the position of District Traffic Manager, Plymouth, G.W.R., was educated at Eton and at Trinity College, Cambridge. After spending two years with McKenzie Mann & Company, contractors, in Canada, he entered the General Manager's Office of the G.W.R. in May, 1913. From 1914 to 1923 he was attached to the Superintendent of the Line's Office, with a break



Mr. W. A. Stanier

Chief Mechanical Engineer, L.M.S.R., who receives the honour of Knighthood

Works of the G.W.R. as an apprentice in 1892. After serving his apprenticeship he became a draughtsman, and, in 1900, was appointed Inspector of Materials; the next year he was transferred to the Running Department as Technical Inspector at Swindon running shed. Early in 1903, Mr. Stanier was promoted to be Assistant Divisional Superintendent, Swindon, and a year later he was transferred to Paddington in a similar capacity. In 1906 he returned to Swindon as Divisional Locomotive Superintendent, a position which he held for six years. At the beginning of 1913 he was appointed Assistant Locomotive Works Manager at Swindon, and he was promoted to be Works Manager in 1920. Two years later he was appointed Works Assistant to the Chief Mechanical Engineer, and in 1923 became Principal Assistant to the C.M.E. It was in 1931 that Mr. Stanier was offered, and accepted, the appointment, as from January 1, 1932, of Chief Mechanical Engineer of the L.M.S.R. In the autumn of 1936 he was appointed by the Government of India as a member of the (Wedgwood) committee of inquiry into the position of



Mr. J. H. Parker

District Traffic Manager,
Plymouth, G.W.R., 1932-42



Mr. J. S. P. Pearson

Appointed District Traffic Manager,
Plymouth, G.W.R.



The late Mr. W. G. Bond

Resident Director, Birmingham & Midland
Motor Omnibus Co., Ltd.

during the war of 1914-19, when he served first as Transport Officer in the Newcastle-on-Tyne area for the Ministry of Munitions and subsequently with the Royal Engineers in France. Mr. Parker was appointed Goods Agent at Oxford in 1923, and was transferred to the Chief Goods Manager's Office as Assistant Development Agent in 1925. In 1928, he was appointed Assistant District Goods Manager, Bristol, and was transferred to Plymouth in 1932 as District Traffic Manager, his duties embracing those of the former Divisional Superintendent and of the District Goods Manager.

Mr. J. S. P. Pearson, Traffic Assistant

to the District Traffic Manager, Plymouth, G.W.R., who, as recorded in our January 1 issue, has been appointed District Traffic Manager, Plymouth, entered the company's service at Bodmin in 1899. After gaining station experience, he went to Plymouth for further training, and subsequently was transferred to the Divisional Offices. He obtained experience in the various departments of the latter, and was made Chief of the Time Table & Excursion Section. In September, 1933, Mr. Pearson became Chief Clerk to the District Traffic Manager, and, in January, 1935, he was appointed Traffic Assistant to the District Traffic Manager.

We regret to record the death at Edgbaston on December 24 of Mr. W. G. Bond, a Member of Council of the British Electrical Federation Limited, and Resident Director of the Birmingham & Midland Motor Omnibus Co. Ltd. and the Birmingham & District Investment Trust Limited. Walter George Alick Bond was born at Eastbourne on December 1, 1863, and was thus 79 years of age. In 1886 he went through a course of electrical engineering at the Hanover Square School of Submarine Telegraphy. In April, 1888, he joined the editorial staff of *The Electrician*, and in the spring of 1895 became Editor, but resigned in the autumn of 1897. He joined the staff of the British Electric Traction Co. Ltd. in December, 1899, and became Secretary to the Advisory Committee for Associated Companies (the predecessor of the British Electrical Federation), and to the British Electrical Superannuation Fund. Mr. Bond was also Editor of the *Monthly Gazette*, which was issued solely for the confidential use of the directors and officers of the B.E.T. and associated companies. For some eleven years he was attached to the head office of the B.E.T., but in 1911 he went to Birmingham as General Manager of the several tramway undertakings of the B.E.T. in the Black Country, then grouped in the Birmingham & Midland Tramways Joint Committee. At that time the Joint Committee had also under its control cable tramways, horse buses (the parent of the Birmingham & Midland Motor Omnibus Co. Ltd.), and electric power and lighting undertakings in Smethwick, Oldbury, etc. These various companies were ultimately merged into the Birmingham & Midland Motor Omnibus Co. Ltd. and the Shropshire, Worcestershire & Staffordshire Electric Power Company. For many years he was a Member of the Joint Industrial Council for the Tramway Industry. He had a life-long interest in literature, and was the author of a few works himself. His first non-technical publication was "The Wanderings of King Charles I and his Army in the Midlands." Later he wrote "Three Things that Matter: Religion, Philosophy, Science," and then "Notes of a Passer-by."



Colonel N. A. Ryan (Acting Chief of Transportation Corps, U.S. Army, E.T.O.), Mr. R. A. Riddles (Deputy Director-General for Royal Engineer Equipment, Ministry of Supply), and Major-General D. J. McMullon, (Director of Transportation, British Army), at the ceremony of unloading the first consignment of American-built austerity locomotives now being used on the British railways

The New Year Honours List

Among the honours announced in the New Year list were the following of transport and industrial interest:—

Knights Bachelor

Mr. Arthur Cecil Griffin, O.B.E., General Manager, North Western Railway, India.

Mr. James Rennie Izat, V.D., Agent & General Manager, Bengal & North Western and Rohilkund & Kumaon Railways.

Mr. Robert Ecklin Marriott, General Manager, East Indian Railway.

Mr. Ralph Ismay Metcalfe, Director, Tanker Division, Ministry of War Transport.

Mr. William Murray Morrison, M.Inst.C.E., M.I.E.E., Vice-Chairman & Managing Director, British Aluminium Co. Ltd.

Mr. George Horatio Nelson, M.I.E.E., M.I.Mech.E., Chairman & Managing Director, English Electric Co. Ltd.

Mr. William Arthur Stanier, M.I.Mech.E., Chief Mechanical Engineer, L.M.S.R.

Mr. Arthur Benedict Winder, J.P., Director, and General Manager, English Steel Corporation Limited.

Companion of Honour

The Rt. Hon. Baron Leathers, Minister of War Transport.

C.B.

Mr. Cyril Augustine Birtchnell, Principal Assistant Secretary, Road Transport, Ministry of War Transport.

Mr. Herbert John Hutchinson, C.B.E., Under-Secretary, Raw Materials Department, Ministry of Supply.

Mr. William George Stevens, Principal Assistant Secretary, Ministry of Aircraft Production.

C.M.G.

Mr. John Vionee Alexander, Chairman of Aden Port Trust.

Mr. William Boyd, Deputy Representative, Ministry of War Transport, in the United States.

K.C.S.I.

Sir Thomas Guthrie Russell, K.C.I.E., Director-General, Munitions Production, Department of Supply, India.

C.S.I.

Mr. Arthur Allen Waugh, C.I.E., I.C.S., War Production Commissioner and Secretary to the Government of the United Provinces in the Industries and Excise Departments.

C.I.E.

Mr. Eric Ingoldby, Chief Controller of Standardisation, Railway Board, India.

Mr. Reginald Trevor Jones, M.C., Indian Service of Engineers, Chief Engineer & Secretary to the Punjab Government in the P.W.D., Buildings & Roads Branch.

Mr. Santas Khushiram Kirpalani, I.C.S., Joint Secretary to Government of India in the Department of Supply.

Mr. Arthur Mitford Sims, Chief Engineer, North Western Railway, India.

G.B.E.

Colonel Sir (William) Charles Wright, Bt., K.B.E., C.B., lately Controller, Iron & Steel, Ministry of Supply.

C.B.E. (Civil Division)

Mr. Arthur Deakin, Acting General Secretary, Transport & General Workers' Union.

Mr. William Frank Jenkins, M.B.E., Principal Deputy Director of Contracts, Ministry of Aircraft Production.

Major Jackson Millar, Regional Controller, Scotland, Ministry of Supply.

Mr. Thomas Arthur Owles, O.B.E., Harbour Engineer, Colombo, Ceylon.

Mr. Robert Stuart Pilcher, General Manager, Corporation Passenger Transport Department, Manchester.

Lt.-Colonel Frank Rayner, D.S.O., T.D., Managing Director, Trent Navigation Company.

Mr. Robert Arthur Riddles, Deputy Director-General, Royal Engineer Equipment, Ministry of Supply.

Lt.-Colonel Ernest William Slaughter, M.B.E., Managing Director, H.E.H. The Nizam's State Railway Board, India, Officer Commanding, Hyderabad Rifles.

Mr. Michael John Watkins, General Manager & Secretary, Belfast Harbour Commissioners.

O.B.E. (Civil Division)

Mr. Roland M. T. Richards, Traffic Manager, Southern Railway.

Mr. J. Twomey, Chairman, Cardiff Port Emergency Transport Sub-Committee.

Mr. J. D. Walker, M.B.E., Assistant Director, Sea Transport Division, Ministry of War Transport.

Mr. L. G. Bailey, Superintendent, Workshops, Khargpur, Bengal-Nagpur Railway, India.

Mr. Percy Cecil John Baker, Superintendent of the Line, Palestine Railways.

Mr. Ernest Massingham, Works Manager, Singhbhum, East Indian Railway.

Rai Bahadur Narendra Kumar Mitra, Chief Engineer, East Indian Railway.

Mr. William Frank Walker, M.C., Indian Service of Engineers, Superintending Engineer, P.W.D., Buildings & Roads Branch, United Provinces.

M.B.E. (Civil Division)

Mr. C. T. Cox, London Divisional Superintendent, G.W.R.

Mr. R. F. Harvey, Assistant Operating Manager, Scotland, L.M.S.R.

Mr. J. H. Mottram, Area Technical Assistant, L.M.S.R.

Mr. E. S. Bradley, A.M.Inst.C.E., District Engineer, Hull, L.N.E.R.

Mr. T. H. W. Cruddas, Works Manager (Wagon), Shildon, L.N.E.R.

Mr. H. G. Sayers, Assistant Superintendent, Scottish Area, L.N.E.R.

Mr. E. J. Vipond, Head of Central Traffic Office, Marylebone, L.N.E.R.

Mr. J. Bridger, Stationmaster, Victoria & Battersea Park, Southern Railway.

Mr. R. C. Hider, District Traffic Superintendent, Metropolitan & Bakerloo Lines, L.P.T.B.

Mr. S. J. Hubbard, Senior Depot Engineer (Railways), L.P.T.B.

Mr. E. R. Batton, Chief Staff Officer, Ministry of War Transport.

Mr. L. E. Herbert, Head Clerk, Bristol Port Authority.

Mr. S. W. Hill, Sea Shipping Assistant, Ministry of War Transport.

Mr. J. L. John, Sub-District Manager, Swansea Emergency Road Transport Organisation.

Mr. A. E. Powell, A.R.P. Officer, Southampton Docks.

Mr. W. E. Pritchard, Dockmaster, Port of Cardiff.

Captain E. H. Slater, Dockmaster, Swansea.

Mr. Harold Herbert Alchin, Assistant Bridge Engineer, G.I.P.R., Manmad.

Mr. Cecil Norman Burns, Works Manager (Locomotives), Lucknow, East Indian Railway.

Lieutenant Rupert Burrington, Marine Superintendent, Bengal & Assam Railway.

Mr. Charles William Butler, Officiating Deputy Indian Trade Commissioner, London.

Mr. Alfred Drummond, Yardmaster, Transportation Department, Kenya & Uganda Railways & Harbours Administration.

Mr. George Henry d'Eca, Senior Assistant Personnel II, Headquarters' Office, North Western Railway, India.

Mr. Leonard Charles Martin, Clerk of Works, Engineering Department, Kenya & Uganda Railways & Harbours Administration.

Mr. Maxwell Leslie Melvill, Telegraph Superintendent, B.B. & C.I.R., Ajmer.

Mr. Leslie Alfred Mettam, Assistant Mechanical Engineer, Railway Colony, Golden Rock, South Indian Railway.

Mr. Saghiruddin Ahmed Suhrwardy, Superintendent (Transportation), Lalmonirhat, Bengal & Assam Railway.

Honorary M.B.E.

Mr. Arie Sacalovitch, Locomotive Inspector, Palestine Railways.

British Empire Medal (Civil Division)

Mr. J. A. Barrett, District Goods Inspector, Birmingham, G.W.R.

Mr. F. P. Bowen, Chief Divisional Traffic Inspector, Swansea, G.W.R.

Mr. T. Langston, Chief Divisional Inspector, Traffic Department, G.W.R., for services to civil defence.

Mr. W. Scanlan, Chief Horse Foreman, Hockley, G.W.R., for services to civil defence.

Mr. J. T. Madron, Diver, Engineering Department, G.W.R.

Mr. G. Beynon, Detective-Inspector, Euston, L.M.S.R.

Mr. J. Green, Wagon-builder, Earlestown, L.M.S.R.

Mr. A. Leach, Leading Hand, Chief Mechanical Engineer's Department, Crewe, L.M.S.R.

Mr. G. Morris, Goods Guard, Crewe, L.M.S.R.

Mr. A. Thornley, Forge Hammerman, Derby Locomotive Works, L.M.S.R.

Mr. E. Whitfield, Tool Fitter, St. Rollox, L.M.S.R.

Mr. A. T. Witheridge, Carter, Bristol, L.M.S.R.

Mr. E. C. Bramble, Permanent-Way Supervisor, Southampton, S.R.

Mr. G. K. Doorne, Stationmaster, Herne Hill, Brixton & Loughborough Junction, S.R., for services to civil defence.

Mr. A. Huckle, Stationmaster, Dover (Priory), S.R., for services to civil defence.

Mr. E. J. Lovelock, Supervisor of Heavy Structures, Clapham Junction, S.R., for services to civil defence.

Mr. G. W. Matcham, Area Inspector, Red Hill, S.R., for services to civil defence.

Mr. L. J. Mumford, Inspector, Waterloo, S.R., for services to civil defence.

Mr. A. A. Nunn, Area Inspector, Orpington, S.R., for services to civil defence.

Mr. A. A. Packsen, Area Inspector, Orpington, S.R., for services to civil defence.

Abdel Malak Mansour, General Foreman, Palestine Railways.

We regret to record the death of Mr. Thomas H. Sanders, M.I.Mech.E., M.I.Loco.E., Works Director of Jonas Woodhead & Sons Ltd., on January 2.

Mr. Sanders was an authority on springs for railway and motorcar purposes.

Mr. G. Wynne Davies has been appointed Assistant Secretary to the Southern Railway Company, as from January 1.

TRANSPORT SERVICES AND THE WAR—172

Lighter Birmingham Trains

In order to release high-powered engines, some months ago the Euston-Birmingham-Wolverhampton services were diagrammed to be worked by Class 4 standard compound passenger locomotives, thus releasing Class 5 engines. Recently it has been found that the Class 4 compound engines could not satisfactorily work a number of the trains owing to their weight, due to increased travel. Consideration was then given to the possibility of forming the trains, either partly or wholly, with non-corridor stock, but on investigation it was found that the time required for ticket collecting at such stations as Watford, Coventry, etc., rendered the proposal undesirable. Arrangements have now been made for the trains to be formed largely of articulated vestibule stock, thereby reducing their weight sufficiently to enable Class 4 compound engines to continue to work them.

Isle of Wight Ban Lifted

The Ministry of Home Security has announced that, in pursuance of a decision of the Government, the Regional Commissioner for the Southern Civil Defence Region is suspending from Friday last, January 1, until March 1, 1943, the ban on visits to the Isle of Wight. It is emphasised that the restrictions on taking up permanent residence in the island remain in force. Although the ban on visits is being suspended, the general injunction against unnecessary travel to the island still applies, and no additional transport facilities will be made available.

The ban on visitors to the coast between the Wash and the Thames, and between Littlehampton and Hastings, was suspended last October until March 1, 1943. As in the case of the Isle of Wight, the restrictions on taking up permanent residence in these areas remain in force.

Certain areas in Kent and Sussex are still subject to the ban.

London Busmen See Overhaul

London bus drivers now have an opportunity of studying at first hand the engineer's side of their job. They also receive instruction on all aspects of the problem of wear-and-tear and how this can be reduced to a minimum by scientific and careful driving. On four days a week, small parties of drivers, accompanied by their district superintendents, spend half a day at the London Passenger Transport Board's overhaul works. Here, at regular intervals comes every London Transport bus for a complete overhaul. Drivers are thus able to review the complete re-conditioning process from the moment the vehicle arrives at the works until it emerges ten days later ready for a further two years of service. At lunch, an official of the board presides. Questions and answers are freely exchanged, and full discussion ensues. It is hoped that all London Transport drivers will be able to visit the overhaul works in due course.

In addition to these tours of inspection, the urgent need for conserving rubber and fuel has led the board to organise talks to the men, given at local garages. Once a week, the district mechanical inspector attends to give advice upon methods of avoiding wear-and-tear and the waste of materials. To encourage drivers to get the maximum possible efficiency from their engines, the function and manner of operation of important units, such as the Wilson gearbox, fluid flywheel, and other important parts, are fully explained. A set of exhibits is available for practical demonstration.

This includes clutch parts, self-starter parts, pinion, and Wilson gearbox, and component parts liable to overheating. Rubber accessories and major units of the engine and gearbox also are available for some talks. Already more than 9,000 members of the staff have attended these talks. Attendance is voluntary, but at some garages, the numbers present have been well over 200 men in the day.

Cheap Tickets for Civil Nursing Reserve

Members of the Civil Nursing Reserve working some distance from their homes are to have railway tickets at special low rates when they go home on leave between April 1 and September 30 this year, according to an announcement of the Ministry of Health. There are some conditions, but, generally, mobile members who have served for at least six consecutive months will be entitled to a return ticket home, whatever the distance in Great Britain, at a cost to themselves not exceeding 7s. 6d. The tickets will be issued by the employing authority.

Insurance of Motor Goods Vehicles

In September, 1942, insurers of motor goods vehicles agreed to continue and extend, without any general increase in rates, existing policies for motor goods vehicles while used within a group scheme, although the Emergency Powers (Road Vehicles and Drivers) Order, 1939, removed certain restrictions on "A," "B," and "C" licences under the Road & Rail Traffic Act, 1933. The same concession has been agreed to in respect of vehicles used for other purposes on a certificate by an officer of the Ministry of War Transport that such use is necessary (1) to deal with an emergency or (2) because there were no other vehicles available which were licensed and insured for haulage for reward. These certificates are issued by District Transport Officers, and are not issued for: (1) normal work for the Road Haulage Branch of the Ministry of War Transport; (2) Civil Defence work; (3) use which could be put on a non-emergency footing. The insurers have now agreed that these arrangements shall be in force until March 31, 1943.

Parcels by Numbers

Speedier and more efficient handling of parcels on the L.M.S.R. should result from a new scheme which has just been introduced at 2,430 L.M.S.R. stations, whereby parcels sorters and loaders do not need to refer to addresses on parcels. Instead, they sort and load into railway vans in accordance with a crayoned number marked plainly on every parcel by the parcel receiving clerk. Besides making the sorters' work easier in the dimness imposed by blackout restrictions, this scheme will enable parcels to be sorted and loaded more quickly, and with greatly reduced risk of error even by the many newcomers who have taken the place of experienced staff now with the Forces.

Each of the main and transfer stations has been allotted a "zone centre number." Surrounding stations reached *via* the main or transfer stations have been allotted the number of the nearest main station or transfer point to which their traffic is despatched for local forwarding. A booklet has been provided to all L.M.S.R. parcels staff wherein every station in Great Britain dealing with parcels is tabulated in alphabetical order; opposite every station the

number allotted to the particular station is shown. As soon as a parcel is received, the number allotted to the destination station is marked on it by crayon. At small stations, parcels are then despatched by the appropriate service to the nearest main or transfer station in the direction of the position of the final destination.

Originating traffic at main and transfer stations is marked with the appropriate zone number at the time of booking, and then sorted along with traffic received from the small stations to platform barrows placed under indication boards on which are shown the various zone centre numbers. Parcels bearing similar numbers to those appearing on the boards, fall to be sorted to the barrow situated beneath, and are subsequently loaded in the rail parcel vans, the interiors of which are marked with the numbers requiring to be loaded therein. Thus the address on the package has only to be read by the staff who mark the parcel with the number, on reception; the staff at the main or transfer station; and at destination for delivery.

Effect of U.S.A. Fuel Rationing

Petrol rationing came into force in the 17 Eastern States on May 15 last, and nation-wide rationing on December 1, the latter mainly in order to conserve the use of rubber tyres in the oil-producing and other Western States. Figures recently issued by the Public Roads Administration give a striking impression of the decline of road travel during the period when only the 17 Eastern States were rationed. Traffic on rural highways declined 49 per cent. in the petrol-rationed area and 27 per cent. in the unrationed area in August last, compared with the same month a year earlier. These figures are based on records of more than 460 automatic traffic recorders operated by 39 State highway departments. Petrol tax collections in 31 States (representing mainly fuel consumption in July) totalled \$47,574,000, or 20 per cent. less than a year earlier. In 10 of the rationed States collections were lowered by 25 per cent., and in 21 un-rationed States collections were lowered by 17 per cent.

As an indication of the drastic reduction of non-essential traffic, the report of the Public Roads Administration states that during August passenger car traffic decreased at specified points as follows: 17 toll facilities scattered from Maine to Virginia, 42 per cent.; Sumner Tunnel, Boston, 30 per cent.; Cross County Parkway, New York, 64 per cent.; Pennsylvania Turnpike, 67 per cent.; Pensacola Bay Bridge, Florida, 34 per cent.; and 16 toll bridges in Kentucky, 29 per cent.

Canadian Car-loading Order

Under an Order made by the Transport Controller, Dominion of Canada, which became effective on November 1 last, no rail carrier in the Dominion of Canada may accept for transport at point of origin, or points of transshipment, or forward therefrom, any carload of goods, unless the vehicle containing such goods is loaded to capacity, which will be either the marked weight capacity or the volume capacity. Special or general permits may be issued by the Transport Controller to meet specific needs or exceptional circumstances, or to avoid controversies which might result in goods being loaded in a dangerous manner. Among the general exceptions to the Order, which is somewhat similar to that recently issued by the Office of Defense Transportation in the United States, is one to the effect that the order does not apply to goods shipped by, or consigned to, any estab-

ishment or agency of the Canadian or Allied Armed Forces or Governments, or shipped from or to shipbuilding plants operated by, or on behalf of, the Canadian, United States, or British Governments in Canada. It is hoped that the Order will result in many additional wagons being available, and in the conservation of motive power, manpower, and fuel; and that, by this method, rationing of railway vehicles among civilian users may be avoided.

Taxi Restrictions in Canada

Taxicab operators in Edmonton were recently ordered to discontinue running non-essential trips. The Canadian Federal Transit Controller has limited Edmonton taxis to five types of service, namely, to and from hospitals, to and from trains and buses, to and from weddings and funerals, business trips, and special journeys for which local tram and bus services are not available. Restrictions on the use of taxicabs in Nova Scotia were recorded in our issue of December 18 & 25, 1942 (page 626).

Defence Activities in South Australia

During the financial year ended June 30, 1942, which forms the subject of the South Australian Railways Commissioner's report that has just reached this country, a large defence programme was again carried out by the branches of the Chief Engineer and the Chief Mechanical Engineer of the South Australian Railways, including the design and construction of extensive buildings, and installing machinery therein. In addition, the manufacture was continued of aircraft components, machine gun carriers, and the large-scale production of shells, as well as of lathes, tools, gauges, and dies for use in munition establishments elsewhere. Such work, and the transport of defence personnel and equipment, in addition to ordinary railway operations, maintenance, and construction, have made heavy demands upon the South Australian Railways Organisation.

Uruguayan Railway Difficulties

Some glimpses of the wartime difficulties which are being experienced by railways in Uruguay were given in the statement of the Chairman of the Central Uruguay Railway Co. of Montevideo Ltd. which was presented to the shareholders on December 29. In June last the company was warned at very short notice that its supplies of fuel oil would be drastically curtailed, and this resulted in an enforced reduction of approximately 25 per cent. in the train services. The company is striving to supplement the oil with other fuel, and so far has met with some measure of success, but the prospects of supply are uncertain. Some locomotives have been converted to burn coal, and some to burn wood, but it has been found that these alternative fuels can replace only in part the loss of tractive power brought about by the reduced fuel-oil supply.

Naturally this curtailment of fuel has had its effect on the company's gross receipts, and in the first four months of the current financial year, which began on July 1 last, receipts have fallen from £402,000 to £380,400. As a result of these factors passenger fares were raised from November 15 last. By law, three months' notice has to be given for alterations in goods and livestock rates; new tariff books have been prepared and published, but the new rates cannot be brought into force until January 15.

New rails are unprocureable in Uruguay. One of the principal items calling for re-

newal as early as possible is the Nico Perez line, 198 km. (123 miles) long, and, as renewals cannot at present be undertaken, severe speed restrictions are in force, and this particular line is being nursed by every expedient possible.

For some long time past nearly everyone of the company's employees has been contributing to the British Patriotic Fund for the Red Cross, and other work, through a voluntary committee of their own. Towards the end of last year a call was made for volunteers for a special Vigilance Corps to safeguard the company's property, work involving voluntary service outside normal working hours; there was an immediate response from practically the whole of the staff—a striking proof of loyalty to the company.

Germany and Italy

At the end of December, the German Government appointed a committee of experts headed by Dr. Schacht, formerly President of the Reichsbank, to present an exhaustive report on the economic potential of Italy, according to the Soviet radio. Before beginning this work, Dr. Schacht is stated to have said "that Italy's withdrawal from the war is inevitable." This is alleged to have produced a strong impression in German political circles.

New Moscow Underground Line

A new underground railway line in Moscow—the third—was brought into use on January 1. It is 4 miles long and connects Sverdlov Square (in the centre of the city) with the industrial district where the Stalin Motor Works are located. The opening is said to have caused public surprise, as construction has continued in secret since the German invasion of Russia. The stations, like those on other lines, are spacious and well-designed, and will provide additional air-raid shelters. The Moscow Underground, of which the first section was opened in 1935, was designed so as to provide adequate shelter, and is understood to have proved completely effective.

Speeding Up Transport in Holland

Stricter regulations than hitherto, in respect of speeding-up railway and inland shipping transport, came into force in Holland at the beginning of November as a result of an order issued by the Reich Commissar. Shippers and consignees of goods are required to begin loading and unloading operations without delay as soon as wagons or inland water craft are placed at their disposal, or immediately after arrival. Demurrage fees have been increased substantially. The new regulations entitle the railway or waterway administrations themselves to proceed with loading or unloading goods in the event of any delay on the part of the shippers or consignees. Such operations may be carried out with the assistance of labour obtained from the District Labour Bureaux or from the so-called Labour Commandos; all costs and risks in this connection must be borne by the consignees. Moreover, the railway and waterway administrations are entitled to unload the goods at places different from those originally prescribed

by the senders, or to deposit the goods with third parties for account of the consignees. These regulations are among the most drastic ones affecting transport which have yet been introduced in Holland by the Germans. The object, of course, is to accelerate the turn-round of wagons and inland water craft.

Roumanian Railways and the Verein

The Roumanian State Railways and three private railway companies joined the Verein Mitteleuropäischer Eisenbahn Verwaltungen (the Union of Central European Railway Administrations) on November 1, 1942. The Roumanian State Railways Administration was a member of the union (then called the Union of German Railway Administrations) from 1877 until 1916. In the latter year Roumania was at war with Germany, on the side of the Allies. After the war, Roumania did not rejoin, not even when the union was renamed in 1932, though many efforts were made by German railway officials to induce the Roumanians to come in again.

The Locomotive Position in Roumania

The locomotive position of the Roumanian State Railways was recently reviewed by the management. The total stock was 2,523 engines on August 15, 1942, whereas it was 1,960 on January 1, 1941, after the cession of territory to Hungary, but before the incorporation of the Trans-Nistrian lines. During 1941 just over 1,200 locomotives were repaired in the railway workshops, 209 in private shops, and 142 were sent to Germany for repairs. No engines were sent during the latter part of 1941, or the early months of 1942, but some months ago another batch of 150 was despatched to Germany for repair, as the Roumanian shops cannot cope with all maintenance repairs since the addition of the Trans-Nistrian lines.

Railway Bridge between Roumania and Bulgaria

Representatives from the Roumanian Ministry of Public Works and the Bulgarian Ministry of Transport have reached agreement on the joint construction of a bridge across the River Danube between Giurgiu and Russe carrying a double track railway, a road, and a footway. A committee of engineers has been appointed to complete the plans so that construction may be begun in the summer of 1943. The work is estimated to take five years to complete. German firms have been selected to supply the steel superstructure of the bridge. A wagon ferry between these points was inaugurated on June 16, 1941.



Railways in the capital of Bulgaria

Staff and Labour Matters

Railway Shopmen

The Railway Shopmen's National Council at a meeting held in London on December 22, reached agreement on the consequential alterations in rates of pay of railway workshop staff arising out of Industrial Court Award No. 1872.

This award of the Industrial Court, as announced in our issue of August 21, increased the war wage or bonus by 4s. a week for adult males and 3s. a week for women and in addition, awarded an increase of 4s. 6d. a week to the minimum rated men, leaving the consequential alterations arising out of this 4s. 6d. to be settled by the Railway Shopmen's National Council.

The settlement of the shopmen's council gives increases of the following amounts according to the base rates of the staff coming within Schedules "B," "C," "D," and "E" of Industrial Court Award No. 728:—

Present base rates			Amount of increase
London	Class 1 to 4 towns	Class 5 towns	
s. 37 and under	s. 35 and under	s. 34 and under	s. d. 4 6
38	36	35	4 0
39	37	36	3 6
40	38	37	3 6
41	39	38	3 0
42	40	39	2 6
43	41	40	2 6
44	42	41	2 0
45 and over	43 and over	42 and over	1 6

The increases apply to both timeworkers and pieceworkers but are not to be taken into account in fixing piecework prices.

Under the award of the Industrial Court the increases apply as from the beginning of the pay week after March 9, 1942.

Engineering Female Workers

Under an agreement between the Engineering & Allied Employers' National Federation and the Transport & General Workers' Union, and the National Union of General & Municipal Workers, the national bonus of female workers was increased as from December 21, 1942, to the following:—

Age	National bonus
14	7
15	8
16	12
17	15
18 and over	22

In addition, a special timeworkers' bonus was granted ranging from 1s. a week at age 14 years to 3s. a week at age 21 and over for women employed on plain time work. The rates payable to women workers in the engineering industry, taking into account these increases, are as follows:—

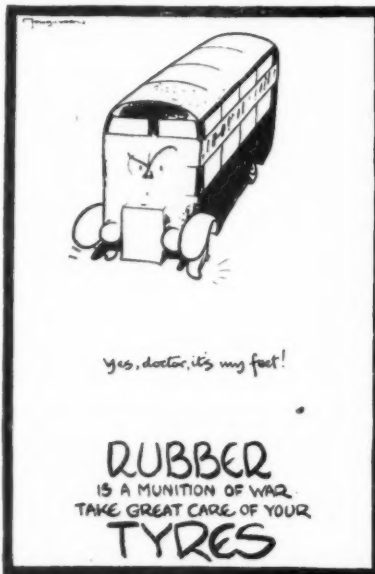
Age	Basic rate	National bonus	Time-workers' bonus	Total each 47 hours
	s. d.	s. d.	s. d.	s. d.
14	10 0	7 0	1 0	18 0
15	11 0	8 0	1 0	20 0
16	13 4	12 0	1 0	26 4
17	14 8	15 0	1 0	30 8
18	19 0	22 0	1 6	42 6
19	21 0	22 0	2 0	45 0
20	23 0	22 0	2 6	47 6
21 and over	25 0	22 0	3 0	50 0

GREAT SOUTHERN OF SPAIN RAILWAY CO. LTD.—No intimation has been received from the Spanish Government as to the amount of the compensation to be accorded

in respect of the anticipation of the reversion to the State of the company's concessions, and it is impossible to make any estimation of the final result. No complete accounts are available for the year ended December 31, 1941, and in the balance sheet the Spanish currency balances and corresponding conversions to sterling are as they appeared at December 31, 1935, as these being the only figures available. Revenue and expenditure in London, including accrued first mortgage debenture interest of which payment is postponed under the scheme of arrangement, show a loss for 1941 of £11,162, increasing the debit balance carried forward, so far as it is ascertainable, to £192,047.

Encouraging Tyre Economy

The new Order of the Minister of War Transport restricting the use of tyres comes into force today, and makes it an offence to use a motor vehicle or trailer on a road when the fabric of a tyre is showing through the tread. About 70



ISSUED BY THE TILLING GROUP OF OMNIBUS COMPANIES

per cent. of our rubber supplies are used in the manufacture of tyres, and at present 90 per cent. of the world's rubber resources are in enemy hands.

In giving brief details of the new Order

EVERY DROP OF LIQUID FUEL IN THE TANK OF THIS BUS HAS BEEN CARRIED THOUSANDS OF MILES AT GREAT RISK —
Do not waste it

Last month the fuel consumption on this vehicle was m.p.g.. The average for this type was m.p.g..

Who is wasting this fuel?
ARE YOU?

ARE YOU DRIVING YOUR VEHICLE CAREFULLY OR ARE YOU RELYING ON A SAILOR TO TAKE EXTRA RISKS TO MAKE UP FOR YOUR EXTRAVAGANCE?

Save Rubber and Petrol

(in our issue of December 18 & 25), we also reproduced one of a pair of posters prepared by "Fougasse" for the Tilling Group of Omnibus Companies to encourage tyre economy; the other one is reproduced herewith. These posters are intended for exhibition in bus garages to impress upon bus crews the need for tyre care, and we feel that such steps are almost certainly likely to prove more effective than mere emphasis on legal penalties for infringement of Orders.

Apart from the "Fougasse" posters, the Tilling Group has had in operation for many months a staff instruction programme with the object of conserving the use of rubber, and some indication of the striking nature of the announcements which form part of this programme may be gained from the accompanying samples. For example, many of the buses in the service of the associated Tilling operating companies bear a circle on the rear offside of the vehicle, obviously as a reminder to following vehicles. There are also four designs of slip used for pasting in front of the driver in his cab. As there are four versions, it is possible to vary them from time to time when renewals become necessary, to avoid the monotony and loss of attention which inevitably results from seeing the same announcement day after day. It will be noticed that one of these slips has a blank space for the insertion of precise details of the fuel consumption of the particular vehicle in relation to the average for its type of other vehicles in the same fleet. We believe that this has been found particularly effective in introducing a friendly competitive element among drivers operating from the same garage, as none likes to feel that he is the furthest from the optimum conditions of the particular depot or area.

ARE YOU DRIVING THIS VEHICLE CAREFULLY OR ARE YOU RELYING ON A SAILOR TO TAKE EXTRA RISKS TO MAKE UP FOR YOUR EXTRAVAGANCE?
SAVE RUBBER & PETROL

90% OF THE WORLD'S RUBBER RESOURCES ARE IN ENEMY HANDS.

SAVE RUBBER
by allowing your vehicle to coast up to the stopping place smoothly instead of braking hard.

January 8, 1943

THE RAILWAY GAZETTE

British Bus Public Relations

Last July we recorded the establishment of the British Omnibus Companies Public Relations Committee, under the presidency of Mr. Sidney Garcke, with the object of remedying the disadvantage that the provincial bus industry had experienced heretofore in lacking a representative voice to proclaim its combined achievements and to speak with authority of its difficulties. A standard sign bear-

our columns. The "British Buses" symbol has also been introduced on the local timetables of various operating companies associated with the British Electric Traction Co. Ltd.

At the time of its formation, it was announced that the British Omnibus Companies Public Relations Committee consisted of the representatives of upwards of 50 bus companies working in England, Scotland, and Wales, and involved nearly 12,000 buses. The nucleus of the membership was provided by these provincial operators associated with the British Electric Traction Co. Ltd., with the Scottish Motor Traction Co. Ltd., and

South African Wartime Tickets

Before the war it was the practice of the South African Railways & Harbours Administration to import the cards on which its great variety of tickets were printed, but with the continuance of emergency conditions it became more and more difficult to obtain regular shipments of the requisite materials, and in consequence South African industry was searched for substitutes. There are three paper-producing mills in South Africa, each, however, producing only a limited number of types of paper and board suitable for use as railway tickets. The demands of the country generally have increased so enormously since these factories were established that their outputs are booked for months ahead, and, in addition to the increase in the number of railway tickets required for civilian purposes, very large quantities of tickets are needed for South African and Allied armed and other military forces.

The requirements of the railways are recognised as for an essential service, and, after exhaustive inquiries and experiments, a fair supply of suitable boards has been made available. In consequence a substantial proportion of tickets is now printed on South African-made material.

IMPROVED MACHINES

The imported blanks were already cut to the required sizes and the printing was, therefore, the only work that had to be undertaken by the administration. The sheets of cardboard received from the South African mills are 40 in. by 34 in., and, in order to reduce them to the required sizes, and to colour the cards, perforate the tickets, and remove the cut-out portions of children's tickets, special machines have had to be improvised and installed in the railway ticket printing works. It is at present impossible to purchase the machines required for these operations in South Africa, but the administration's own ticket printing staff proved its versatility, and improvised the machines. In one case an obsolete ticket-counting machine was converted for the purpose of removing the cut-out portions of children's tickets.

As part of the railway administration's plans for the conservation of paper and for the elimination of waste, the Accounting Department recently experimented with used (i.e. perforated) Hollerith cards, which were formerly regarded as waste and sold to pulping mills at a very low price. These cards are now being used for printing certain kinds of tickets. Within the first six weeks of beginning printing operations, old Hollerith cards were used to the equivalent of one million imported blanks. In addition, some 300,000 old pension contribution cards, about 10 in. by 8 in., used on one side only, will appear shortly as tickets.

The initial difficulties arising from the fact that standard ticket tubes at stations could not satisfactorily accommodate this new type of ticket have gradually been overcome and, with the co-operation of System offices, and of the booking officials who have been responsible for putting the scheme into effect, the new type of ticket is now an established success.

Under wartime conditions, considerations of cost are naturally of less significance, relatively, than in peacetime, but in the adaptation of waste materials for ticket printing the railways have been able to effect substantial savings.

THE BRITISH OMNIBUS COMPANIES PUBLIC RELATIONS COMMITTEE

List of affiliated companies and their duly appointed representatives (and alternates)

Company	Public Service vehicles owned	Representative	Alternate representative
1. Aldershot & District Traction Co. Ltd. ...	200	S. Garcke	J. B. Parker
2. W. Alexander & Sons Ltd. ...	1,217	Sir Wm. Thomson	R. Beveridge
3. Associated Bus Companies Ltd. ...	63	F. Peake	A. Beech
4. Barton Transport Limited ...	160	E. L. Taylor	C. Barton
5. Birch Bros. Ltd. ...	38	R. W. Birch	J. M. Birch
6. Birmingham & Midland Motor Omnibus Co. Ltd. ...	1,360	R. J. Howley	S. Garcke
7. Black & White Motorways Limited ...	42	O. C. Power	R. F. Dixon
8. Central S.M.T. Co. Ltd. ...	379	Sir Wm. Thomson	R. Beveridge
9. Chatham & District Traction Company ...	46	Col. H. I. Robinson	S. Garcke
10. Cheltenham District Traction Company ...	28	J. H. Watts	G. Bown
11. City Coach Co. Ltd. ...	60	W. F. Mallender	H. A. Bridge
12. City of Oxford Motor Services Limited ...	184	S. Garcke	H. T. Barnett
13. County Motors (Lepton) Limited ...	20	J. S. Wills	H. England
14. Devon General Omnibus & Touring Co. Ltd. ...	186	S. Garcke	R. W. Birch
15. East Kent Road Car Co. Ltd. ...	419	S. Garcke	A. Baynton
16. East Midland Motor Services Limited ...	148	J. S. Wills	R. P. Beddow
17. East Yorkshire Motor Services Limited ...	203	J. S. Wills	C. D. Stanley
18. Everingham Bros. Ltd. ...	22	S. H. Everingham	I. A. Everingham
19. J. Fishwick & Sons ...	29	B. Fishwick	W. Fishwick
20. Gosport & Fareham Omnibus Company ...	38	H. O. White	E. Osborn
21. Greenock Motor Services Company ...	95	Sir Wm. Thomson	R. Beveridge
22. Griffin Motor Co. Ltd. ...	40	T. J. Jones	E. V. Ralph
23. Hebble Motor Services Limited ...	64	J. S. Wills	H. Kingsbury
24. Hicks Bros. Ltd. ...	37	Maxwell Hicks	E. G. Hicks
25. J. James & Sons Ltd. ...	33	A. R. James	J. C. Jefford
26. Lancashire United Transport & Power Co. Ltd. ...	256	E. H. Edwardes	J. Farrimond
27. Lanarkshire Traction Co. Ltd. ...	106	R. Beveridge	Sir Wm. Thomson
28. Llanelli & District Electric Supply Co. Ltd. ...	9	S. Dudman	T. Penman
29. David MacBrayne Limited ...	53	H. T. Leith	E. R. Reader
30. Maidstone & District Motor Services Limited ...	470	Col. H. I. Robinson	S. Garcke
31. Mansfield District Traction Company ...	81	Sir Joseph Nall	E. Dudman
32. Mexborough & Swinton Traction Company ...	4	J. S. Wills	R. Kingsbury
33. Midland General Omnibus Co. Ltd. ...	202	Sir Joseph Nall	D. C. Hays
34. Northern General Transport Co. Ltd. ...	438	R. J. Howley	G. W. Hayter
35. Potteries Motor Traction Co. Ltd. ...	306	S. Garcke	H. Kingsbury
36. Ralph's Garages Limited ...	32	E. V. Ralph	T. J. Jones
37. Red & White Services Limited ...	303	J. H. Watts	G. Bown
38. Rhondda Transport Co. Ltd. ...	150	H. Kingsbury	P. R. Blake
39. Ribblesdale Motor Services Limited ...	983	S. Garcke	H. E. Hickmott
40. Scottish Motor Traction Co. Ltd. ...	581	Sir Wm. Thomson	R. Beveridge
41. Scout Motor Services Limited ...	20	E. Watkinson	H. E. Richardson
42. Sheffield United Tours Limited ...	57	J. S. Wills	N. H. Dean
43. Southdown Motor Services Limited ...	541	S. Garcke	A. E. Cannon
44. South Wales Transport Co. Ltd. ...	299	S. Garcke	E. R. Soames
45. W. C. Standerwick Limited ...	54	S. Garcke	H. E. Hickmott
46. Stratford-upon-Avon Blue Motors Limited ...	21	O. C. Power	R. J. Howley
47. Sunderland District Omnibus Co. Ltd. ...	73	H. A. Staggs	R. J. Howley
48. Trent Motor Traction Co. Ltd. ...	326	R. J. Howley	O. C. Power
49. Tynemouth & District Transport Co. Ltd. ...	44	E. R. Soames	H. A. Staggs
50. Tyneside Tramways & Tramroads Company ...	20	G. W. Hayter	R. J. Howley
51. United Welsh Services Limited ...	95	J. H. Watts	G. Bown
52. Venture Limited ...	45	T. I. Thornycroft	J. G. Welling
53. Wakefield's Motors Limited ...	14	E. R. Soames	H. A. Staggs
54. Western S.M.T. Co. Ltd. ...	503	Sir Wm. Thomson	R. Beveridge
55. Western Welsh Omnibus Co. Ltd. ...	471	J. S. Wills	R. W. Birch
56. West Riding Automobile Co. Ltd. ...	253	H. England	G. H. Margrave
57. Yelloway Motor Services Limited ...	32	Herbert Allen	Hubert Allen
58. Yorkshire Traction Co. Ltd. ...	306	J. S. Wills	N. H. Dean
59. Yorkshire Woollen District Transport Co. Ltd. ...	251	R. W. Birch	J. S. Wills
60. Youngs' Bus Service Limited ...	113	R. L. Young	G. A. Fredericks
61. North Western Road Car Co. Ltd. ...	508	S. Garcke	J. W. Womer
	13,131		

ing a single-deck coach and the words "British Buses" was designed for insertion on all publicity matters both national and local, issued by or on the authority of the committee, and steps were taken to launch a national campaign of prestige advertising, as well as more localised announcements in the provincial press. The first of the national advertisements appeared in *The Times* of July 15, and was reproduced in our July 24 issue (page 89), and since that time quite a number of representative announcements have been reproduced in

with Balfour, Beatty & Co. Ltd., but the organisation also included a number of prominent "independents" such as the Red & White group.

At the present time the membership comprises 61 operators of public service vehicles, owning 13,131 buses and coaches. Every operator has a representative on the committee, and an alternate representative authorised to act in his stead. Details are given in the above table, for which we are indebted to Mr. Raymond W. Birch, Director of the committee.

G.W.R. All-Line Trailer Pump Competition The Milne Trophy

As a direct result of the world war the necessity for improving and amplifying the company's fire fighting arrangements has become of paramount importance, and whilst before the war the company possessed no trailer fire pumps, the incidence of the "Blitz" rapidly brought this necessity to the fore. The matter has been vigorously pursued, and today, the Great Western Company possesses in all some 225 petrol trailer fire pumps. The question of forming teams and training the great number of personnel necessary to man these pumps has been taken in hand and the enthusiasm and keenness which has resulted has led to the introduction of several local team drill competitions.

The outstanding success of these competitions led to the suggestion that an all-line contest should be arranged, and the General Manager of the company, Sir James Milne, K.C.V.O., C.S.I., has awarded a challenge cup known as the Milne Trophy to the winning team. Some 300 teams have undergone intensive training in preparation for the competition and, in order to reach the final, eliminating contests were held between the station, depot, and yard teams within each traffic division, resulting in winning teams competing at Paddington for the Milne Trophy on Sunday, January 3. The trophy will be competed for each year.

The venue selected for the competition was the G.W.R. Mint Stables at Paddington, which site lent itself admirably for the occasion. An adequate water dam was already available and ample cover existed for the large number of spectators who witnessed the competition. The teams taking part were:—

London Division	... Reading Signal Works
Bristol Division	... Bristol Goods
Exeter Division	... Exeter Loco.
Plymouth Division	... Plymouth Millbay Goods.
Gloucester Division	... Gloucester Loco.
Newport Division	... Newport High Street Goods
Cardiff Division	... Radyr Loco.
Swansea Division	... Swansea High Street Passenger
Worcester Division	... Worcester Loco.
Birmingham Division	... Wolverhampton, Stafford Rd. Loco.
Chester Division	... Wellington
C.M.E.'s Dept., Swindon	... Carriage & Wagon Works
Docks Department	... Swansea Docks

From Taunton, Cardiff, and Swansea,

teams composed of women entered for the competition, and so keen was their enthusiasm that arrangements were made for the four women's teams: Taunton, Cardiff (General), Cardiff (Queen Street), Swansea (High Street), to give an independent display at Paddington.

It must not be overlooked that although the Exeter Loco. team has in competition won the trophy, all the teams taking part in this final at Paddington must share a large portion of the success and praise as



Mr. K. W. C. Grand, Assistant General Manager, G.W.R., presenting the Milne Trophy to the winning team

well as those who were unsuccessful in the many eliminating trials, and they too must be congratulated on a fine show.

The competition drill was as follows. A light trailer pump properly equipped, and with stays down in position on the starting line, the crew standing in line 6 ft. to rear. On the signal to commence the crew moved forward, took up stays and manhandled the pump to a dam, 60 ft. away, put down and secured stays, connected two lengths of suction to the pump and set in to the dam, run out two lengths of hose and fixed branch to a line 20 ft. from the target. As

soon as the target had been knocked down by the jet, the pump was shut down, hose couplings were broken, and each length of hose under-run from coupling by one man. All gear was replaced on the pump and the pump manhandled forward over the finishing line 6 ft. ahead. The following penalties were applicable:—

- | | |
|---|-------------------|
| 1 Using unauthorised appliances | Disqualification |
| 2 Stays not properly down | 2 secs. each stay |
| 3 Hose or other gear dropped or thrown from one man to another or on to the ground (Branch 2 secs.) | 5 secs. |
| 4 Any man running out his length of hose before the coupling has been accepted by his comrade or coupled to the engine | 5 secs. |
| 5 Accepting a coupling from another man before he has fully run out his own length | 10 secs. |
| 6 Using priming lever before suction spanners have been used or before the strainer is covered with water | 10 secs. |
| 7 Kinking hose, if deliberate, to stop or retard flow of water | 2 secs. |
| 8 Removing branch before pump is shut down | 3 secs. |
| 9 Failure to return branch to pump | 3 secs. |
| 10 Delivery valve not closed at completion of drill | 5 secs. |
| 11 Suction cap not replaced... | 3 secs. |
| 12 Loss of helmet. (It is not intended that a man who accidentally loses his helmet and at once replaces it shall be penalised) | Disqualification |
| 13 Rough treatment of appliances liable to cause damage | 5 secs. |
| 14 Getting to work before signal or working after signal for completion of drill | 10 secs. |
| 15 Non-competitor doing any fireman's work | |

The entire drill was standardised through-



Left: General view during the G.W.R. All-line Trailer Pump Competition held at Paddington for the Milne Trophy

Above: The Swansea ladies' team in action; three teams—from Taunton, Cardiff, and Swansea—were composed of women

out the system and an officer of the N.F.S. adjudicated at each of the eliminating contests. The times taken by the semi-finalists are as under :—

Position	Team	Actual time	Penalty	Aggregate time
		min. sec.	sec.	min. sec.
Men				
1	Exeter (Loco.)	1 34 3/5th	2	1 36 3/5th
2	Reading Signal Works	1 35 2/5th	2	1 37 2/5th
3	Cardiff Radyr Loco.	1 35 4/5th	2	1 37 4/5th
4	Swansea Docks	1 33	10	1 43
		(full time team handicap)		
5	Newport H. St. Goods	1 43	2	1 45
6	Wolverhampton (Stafford Rd. Loco.)	1 47	—	1 47
7	Wellington (Salop)	1 55 4/5th	—	1 55 4/5th
8	Swansea H. St. Passenger	1 55	4	1 59
9	Worcester (Loco.)	2 0	2	2 2
10	Swindon Carr. & Wagon Works	2 1 4/5th	2	2 3 4/5th
11	Bristol Goods	2 6 3/5th	2	2 8 3/5th
12	Plymouth Millbay Goods	2 48	2	2 50
13	Gloucester (Loco.)	No drill	—	—
Women				
1	Cardiff (Queen St.)	2 44 5/5th	2	2 64 5/5th
2	Cardiff (General)	2 22 5/5th	—	2 22 5/5th
3	Swansea (High St.)	2 43 2/5th	—	2 43 2/5th
4	Taunton	3 6 2/5th	—	3 6 2/5th

The difficulties that have beset the various competitors in training for the competitions were fully appreciated by reason of the varying and uncertain turns of duty and the urgent needs of the company's business, and all the more credit was due to all the members of the teams who have taken part in the eliminating and in the final contests.

The company is extremely appreciative

of the invaluable assistance which has been rendered by all ranks of the National Fire Service whose untiring efforts have contributed so much to the high standard of

of the arduous training and the team work will have the most far reaching results as in addition to the actual drill, each team has undergone an oral test in the working and maintenance of the trailer pump.

The adjudicators at the competition were Company Officer Scarrot and Section Leader J. Hill of the National Fire Service. Among those present were :—

Mr. K. W. C. Grand, Assistant General Manager, The Hon. Sir Edward C. G. Cadogan, K.B.E., C.B., M.P., Mr. W. H. Benton (Regional Fire Force Commander), Mr. P. W. Craker, Ministry of War Transport, Mr. R. J. Armstrong, Divisional Locomotive Supt., Worcester, Mr. G. Burness, A.R.P. Office, Borough of Paddington, Mr. H. W. Croft, Stationery Supt., Mr. A. E. C. Dent, Road Motor Engineer, Mr. Hopkins (representing Mr. W. J. Thomas, Chief Docks Manager), Mr. H. J. Hoskins, Dist. Goods Manager, Paddington, Mr. W. Hurle, C. & W. Works Manager, Swindon, Mr. W. Humphrey, Cartage Asst., C.G.M.O., Paddington, Mr. J. A. Kay, Editor, THE RAILWAY GAZETTE, Mr. O. Beaumont, Editor, G.W.R. Magazine, Mr. H. G. Kerry, Dist. Loco. Supt., Paddington (also representing Mr. F. W. Hawksworth), Mr. R. C. Kirkpatrick, Div. Engineer, Paddington, Mr. W. Lambert, Goods Agent, Paddington, Mr. F. W. Lampitt, Chief Goods Manager, Mr. F. J. Loney, L.M.S.R. Watford, Mr. A. S. Mills, R.F.P.O., Mr. F. H. D. Page, Signal Engineer, Mr. A. S. Quartermaine, Chief Engineer, Mr. F. B. Taylor, Southern Railway, Waterloo, Mr. F. W. Tyler, R.F.P.O., Mr. J. L. Webster, M.B.E., S.O.L.O., Paddington, Mr. S. G. Hearn, Operating Asst. to Supt. of Line, Mr. G. E. Orton, Public Relations Officer, Mr. C. W. Powell, New Works Asst. to Supt. of Line, Mr. E. N. Godfrey, S.O.L.O. Paddington, Mr. G. Stephens, Chief of Police.

R.E.C. Committees

The committees of the Railway Executive Committee for 1943 have been appointed as follow :—

Solicitors :

Messrs. L. Buchanan Pritchard (Chairman), P. W. Pine, W. H. Hanscombe, H. L. Smedley, A. Eddy, and C. G. Page.

Goods :

Messrs. G. Marshall (Chairman), F. W. Lampitt, W. M. Perts, A. B. B. Valentine, and T. E. Argile.

Passenger :

Messrs. W. M. Perts (Chairman), G. E. Orton, A. B. B. Valentine, D. C. McCulloch, and A. L. Gibson

Mineral :

Messrs. C. N. Mansfield (Chairman), W. M. Perts, C. Furber, A. B. B. Valentine, and J. E. Kitching.

Operating :

Messrs. V. M. Barrington-Ward (Chairman), G. Matthews, T. W. Royle, W. J. England, and Evan Evans.

Engineering :

Messrs. W. K. Wallace (Chairman), A. S. Quartermaine, G. Ellison, J. C. L. Train, and H. J. Green.

Mechanical & Electrical :

Messrs. W. A. Stanier (Chairman), F. W. Hawksworth, O. V. Bulleid, J. H. Parker, A. Raworth, H. W. H. Richards, W. S. Graff-Baker, E. Thompson, and C. E. Fairburn.

Signals :

Lt.-Colonel G. L. Hall (Chairman), and Messrs. F. H. D. Page, A. F. Bound, A. E. Tattersall, and R. Dell.

Accountants :

Messrs. C. R. Dashwood (Chairman), L. C. Glenister, A. E. Moore, G. Morton, L. C. Hawkins, and R. G. Davidson.

Surveyors :

Messrs. A. Endicott (Chairman), C. D.

Tidmarsh, W. H. Roberts, F. C. Hockridge, and T. C. West.

Staff :

Messrs. G. L. Darbyshire (Chairman), H. Adams-Clarke, O. Cromwell, Kenelm Kerr, and G. H. Brooks.

Coal :

Messrs. F. W. Hawksworth (Chairman), A. P. Ross, H. Rudgard, C. H. M. Elwel, Colonel C. J. Francis and Messrs. S. J. Symes, A. Cobb and P. Croom-Johnson.

Stores :

Messrs. A. P. Ross (Chairman), G. F. Boxall, Colonel C. J. Francis, and Messrs. S. J. Symes, and P. Croom-Johnson.

Statistical :

Messrs. G. Morton (Chairman), H. E. Hedges, W. J. Sawkins, L. C. Glenister, H. N. Trye, and F. A. A. Menzler.

Docks :

Messrs. H. A. Short (Chairman), W. J. Thomas, P. Gibb, and D. C. McCulloch.

Police :

Messrs. G. Stephens (Chairman), W. B. Richards, R. R. Pettit, and H. S. Cole, Colonel H. C. Prescott, and Mr. P. L. Smith.

Road :

Messrs. J. Shearman, (Chairman), Guy Jones, H. W. Faircloth, A. R. Wilson, A. B. Potter, A. A. Harrison, E. M. Jackson, A. E. C. Dent, V. C. Wormald, and W. H. E. Humphrey.

Publicity :

Messrs. G. H. Loftus Allen (Chairman), F. Scothorne, R. F. Hurford, C. G. Dandridge, H. T. Carr, C. Grasemann, George Dow, and J. R. Hind.

Catering :

Messrs. A. E. Towle (Chairman), J. E. Ryan, R. H. Hacker, and R. A. P. Setterfield.

A.R.P. :

Messrs. G. S. Hussey (Chairman), F. B. Taylor, C. R. Wade, J. L. Webster, and E. T. Brook.

Home Guard :

Messrs. Ashton Davies (Chairman), K. W. C. Grand, E. T. Brook, F. J. Wymer, and G. Marshall.

NON-FERROUS METALS AND TIN ORDERS, 1942.—The Minister of Supply has made Control of Non-Ferrous Metals (No. 11) the (Copper, Lead & Zinc) Order, 1942, and the Control of Tin (No. 5) Order, 1942, both with effect from December 17, 1942. Order No. 11 makes certain modifications in the provisions controlling the acquisition or sale of copper, lead, and zinc, and of ores, concentrates, and specified scrap containing these metals, as it has been found necessary to provide a closer control over their use. The most important modifications are to the effect (i) that persons who consume more than one ton of any of these metals a month no longer are exempted from the licensing procedure; and (ii) that additional classes of scrap and waste containing these metals are brought for the first time within the scope of the licensing procedure. As hitherto, it will not be necessary for a scrap merchant to obtain a licence for the acquisition of scrap which he subjects to no process other than cleaning, crushing, or sorting. The new Order maintains the present scale of maximum prices for copper, lead, and zinc, and, by Directions nos 1 and 2, which are issued with the Order, the existing premiums and discounts on those prices for special shapes or delivery in small lots also are maintained. Under the new Control of Tin Order, persons acquiring no more than one cwt. of tin a month who hitherto have been exempt from the licensing procedure, now will have to obtain a licence before acquiring any quantity, however small. Copies of the Orders, price 3d. and 1d. respectively, may be purchased from His Majesty's Stationery Office, Kingsway, W.C.2, or through any bookseller. All inquiries should be addressed to the Non-Ferrous Metals Control, Grand Hotel, Rugby.

Transportation Club for U.S.A. and Canadian Officers

The Transportation Club, Wilton Crescent, S.W.1, was opened on January 1 by Sir Ronald Matthews, Chairman of the Railway Companies' Association, assisted by Mr. Averell Harriman, Special Assistant to the President, U.S.A., and Lt.-Colonel Unwin Simson, Administrative Secretary representing the High Commissioner for Canada. The club is for American and Canadian officers in this country, who in peacetime were employed by transport companies. It is being sponsored by the four British Railways and London Transport, and is being run on the usual lines of a social club. Lt.-Colonel K. R. N. Speir, D.S.O., has been appointed Secretary. The furniture has been supplied by the hotels of the British railways and catering is in the hands of a committee under the chairmanship of Mr. R. A. P. Setterfield, Manager, Hotels, Refreshment Rooms, & Restaurant Car Services, G.W.R. Usual catering facilities (including American specialities), library, writing rooms, are all available, and it is hoped that these amenities will prove to be of value in cementing friendship between the Allies and this country. The work of decorating and equipping the club has been carried out entirely by railway companies' personnel and a leading part has been taken by Miss P. M. Oxenford, Assistant to the Controller, L.M.S.R. Hotels.

Sir Ronald Matthews, at the opening ceremony, said that in days of peace it had been the custom for a number of years to send men of the British railways and of the London Passenger Transport Board to the United States and to Canada to study railway practice in those countries. During those visits the British officials had been most kindly received and had experienced the hospitality of the North American continent, which was proverbial. Now many of the men of the American and

Canadian transportation industry were in this country, and the British railways and the London Passenger Transport Board welcomed the opportunity of returning in some small degree the many kindnesses of their American and Canadian friends, by establishing a centre for transportation officers where they could meet their colleagues of the British railways and exchange ideas and get to know one another better. He hoped they would make full use of the club while they were in this country. Much as they were welcome, he hoped that their stay would be brief and that the day was not far off when their task would be accomplished and they were free to return to their own countries.

Sir Ronald Matthews added that the managements of the American and Canadian railways, with whom the British railways were continuing their happy co-operation of peacetime, had been advised of the venture and had expressed their appreciation. He read cables received from Mr. R. C. Vaughan, Chairman & President, Canadian National Railways, Sir Edward Beatty, Chairman, Canadian Pacific Railway, and Mr. D. C. Coleman, President, Canadian Pacific Railway.

Sir Ronald Matthews concluded by thanking Colonel Speir and Miss Oxenford who had been responsible for the arrangements at the club. The proposition had been mooted only a short time previously, but he was assured that nothing had been done until the scheme had received the blessing of the Railway Companies Association, which in itself made it a very remarkable achievement. Mr. Harriman said that the bonds between British, American, and Canadian peoples were close, but never closer than between members of the transportation services of those countries. They might be fortunate in the absence of competition between themselves, and because

operating conditions were too different for rivalry and operating performances could not be analysed on a common basis. Across the Atlantic they talked of heavy loads and costs per ton-mile, whereas in Great Britain the topics were short hauls and congested areas. Nevertheless, they all had the same standards of public service.

The club would be an important contribution to forging new bonds of interest between British, American, and Canadian associates, and it would play a part in dealing with the problems of the future.

Colonel Simson said he was sure that in the club many friendships would be renewed and others made, which would still further increase co-operation now and after the war, and would thus help to win the peace. There was no place better than a club for men to get to know one another.

Among those present were a number of Directors and Officers of the railway companies and the London Passenger Transport Board. We hope to give further details of the club in a future issue.

Locomotives for Spain

In *The Times* of December 30, the following Reuters message from Bilbao was published under date December 29: "The last two of a first order for 40 locomotives were delivered by the Babcock & Wilcox factory to the Spanish National Railways here today. All 40 were built during the present year. They are all of the same model, weighing 90 tons each, including tender."

On the following day *The Times* referred to the message and stated that the new locomotives for the Spanish National Railways had been made in the Spanish Babcock & Wilcox Company's works in Spain.

As a result of enquiries, an official of Babcock & Wilcox in London stated that these engines were part of a series that has been in building since 1920. It was believed they were 4-6-2 standard passenger locomotives, intended for use on those sections of the Spanish Railway which do not include the heaviest gradients. It was added that the Bilbao office had recently received a contract for a number of locomotives for use on the mountain gradients.

ROLLING STOCK SHORTAGE

The shortage of locomotives and rolling stock, resulting primarily from the wholesale destruction and neglect during the Civil War, has not yet been made good. Approximately 34 per cent. of the country's locomotives, 60 per cent. of its passenger cars, and 40 per cent. of its goods wagons were destroyed or badly damaged, during the war, and although some of the stock has been repaired or reconditioned, less equipment was available on January 1, 1942, than in July, 1936. The following figures show the position:—

	July, 1936	April, 1939	Jan. 1, 1942
Locomotives ...	2,830	1,837	2,475
Carriages ...	4,383	1,740	2,816
Wagons ...	69,222	41,700	64,997

Orders were placed in December, 1939, for 150 locomotives, and 130 more were ordered in August, 1941, but by May, 1942, only 23 had been delivered. As to passenger and goods stock, the position has been rendered much worse by the transfer of traffic from the roads, in consequence of fuel restrictions. No passenger stock has been built since the war, and lack of accommodation leads to the forming of long queues at booking offices. The wagon position is much better. Delivery of 2,500 wagons ordered in 1939 has been made and 3,500 more are being built.



Left to right (front row): Lt.-Colonel Unwin Simson, Mr. Averell Harriman, and Sir Ronald Matthews during the opening ceremony

RAILWAY AND OTHER MEETINGS

Bengal & North Western Railway Co. Ltd.

An extraordinary general meeting of the Bengal & North Western Railway Company was held on January 3 at Winchester House, Old Broad Street, London, E.C., when a resolution was unanimously passed that the company be wound up voluntarily and Colonel Thomas Gracey, R.E., Sir Malcolm Hogg, and Sir James Williamson were appointed liquidators.

Colonel Thomas Gracey, who presided at the meeting, said:—Ladies and gentlemen.—It is with great regret that the board call you here today and ask you to put an end to your company, the Bengal & North Western Railway, which has always served the public and ourselves so well, and in many cases our fathers and grandfathers too. Valedictory statements were made at the general meeting in April last, and I do not propose to repeat them, but will only make a few remarks about the future liquidation.

The total sum involved, including investments, is about £11,910,000, representing 397 per cent. to the ordinary stockholder. Out of this considerable sums, which depend on interpretations of the contracts with the Secretary of State for India, are under discussion. The claims so far put forward amount to

about £700,000, but the Secretary of State, when informing us that the first payment to the company will be made at a very early date, has kept back no less than £2,190,000 out of the full purchase price as claimed by the company. Consequently the first distribution will not be as large as the directors had hoped.

THE FIRST DISTRIBUTION

It is expected that the liquidators will be able to make a first and main payment of 310 per cent. on March 1, 1943. Under the contract the Secretary of State has to pay within four months of the cessation of the contract—i.e., January 1—and any amounts outstanding bear interest at 4 per cent. from that date till the date they are actually paid.

The final accounts for the period ending December 31, 1942, will not be received in all probability till September or October, 1943, when income tax, etc., have to be finally agreed. It is highly probable that at least two years, if not more, will elapse before the liquidators will be able to demand their release.

Although, as I have just remarked, the final revenue accounts to the end of the year will not be received for some considerable time, the anticipated results,

which are, of course, approximate, have been cabled from India. The board consider that these results justify the declaration of a further and last interim dividend on the ordinary stock of 8 per cent., less income-tax at the rate of 5s. 3d. in the pound, making, together with the interim dividend and bonus which were paid for the half-year ended March, 1942, a total distribution of 18 per cent. for the period October 1, 1941, to December 31, 1942.

This last interim dividend will, so far as is possible, be paid on February 1, 1943. Stockholders will receive any further earnings which may accrue along with the capital distribution.

TRIBUTE TO CHAIRMAN AND DIRECTORS

Sir George Tomlinson, in proposing a vote of thanks to the Chairman and directors, said that the stockholders who had watched the fortunes of the company for so long must feel a very considerable measure of regret that it was ceasing to exist. It was a source of great satisfaction to the stockholders that while they had received a very handsome return on their investment they had also been associated with an undertaking which had contributed so much to the development of the Indian Empire.

The resolution was carried with acclamation and the Chairman, in replying, said they were only too sorry to sever a connection which had been so harmonious for so many years.

Rohilkund & Kumaon Railway Co. Ltd.

At an extraordinary general meeting of The Rohilkund & Kumaon Railway Co. Ltd., held on January 3 at Winchester House, Old Broad Street, London, E.C., a resolution was unanimously passed that the company be wound up voluntarily, and Colonel Thomas Gracey, R.E., Sir Malcolm Hogg, and Sir James Williamson were appointed liquidators.

Colonel Thomas Gracey, who presided, said:—Ladies and gentlemen.—It is with great regret that the board call you here today and ask you to put an end to your company, the Rohilkund & Kumaon Railway, which has always served the public and ourselves so well, and in many cases our fathers and grandfathers too. Valedictory statements were made at the general meeting in April last, and I do not propose to repeat them, but will only make a few remarks about the future liquidation.

The total sum involved, including investments, is about £1,616,000, representing 404 per cent. to the ordinary stockholder. Out of this considerable

sums, which depend on interpretations of the contracts with the Secretary of State for India, are under discussion.

The claims so far put forward amount to about £50,000, but the Secretary of State, when informing us that the first payment to the company will be made at a very early date, has kept back no less than £315,000 out of the full purchase price as claimed by the company. Consequently the first distribution will not be as large as the directors had hoped. It is expected that the liquidators will be able to make a first and main payment of 310 per cent. on March 1, 1943.

Under the contract, the Secretary of State has to pay within four months of the cessation of the contract—i.e., January 1—and any amounts outstanding bear interest at 4 per cent. from that date till the date they are actually paid.

THE FINAL ACCOUNTS

The final accounts for the period ending December 31, 1942, will not be received in all probability till September or October, 1943, when income tax, etc.,

have to be finally agreed. It is highly probable that at least two years, if not more, will elapse before the liquidators will be able to demand their release.

Although, as I have just remarked, the final revenue accounts to the end of the year will not be received for some considerable time, the anticipated results, which are of course approximate, have been cabled from India. The board consider that these results justify the declaration of a further and last interim dividend on the ordinary stock of 8 per cent., less income tax at the rate of 6s. in the pound, making together with the interim dividend and bonus which were paid for the half-year ended March, 1942, a total distribution of 20 per cent. for the period October 1, 1941, to December 31, 1942.

This last interim dividend will so far as is possible be paid on February 1, 1943. Stockholders will receive any further earnings which may accrue along with the capital distribution.

The proceedings terminated with a cordial vote of thanks to the Chairman and directors.

SPANISH AIR SERVICES.—The number of passengers registered as arriving at aerodromes in Spain, in 1941, was 34,895, compared with 17,219 in 1940. Of the total, 15,351 (against 7,083) were arrivals, and 19,544 (against 10,136) were departures. The amount of freight handled was 323 tonnes, of which 180 tonnes were arrivals and 143 tonnes departures.

LOUD SPEAKERS AT L.N.E.R. STATIONS.—Four more L.N.E.R. stations were installed with loudspeaker equipment in December, namely, Sheffield (Victoria), Peterborough (North) (see page 54), Grantham, and Doncaster (Central). In all cases the loudspeakers are operated by

female train-announcers. The new installations bring the total number of L.N.E.R. stations so equipped to twelve: the others are Kings Cross (main line), Liverpool Street, York, Darlington, Newcastle, Edinburgh (Waverley), Scarborough, and Sunderland.

RAILWAY EXPRESS AGENCY.—At the present time the Railway Express Agency (U.S.A.) is operating on approximately 213,000 miles of railway, 45,000 miles of air lines, 15,000 miles of motor carrier lines, and 20,000 miles of steamship routes. It employs 60,000 men and women at its 23,000 offices, and use more than 15,000 motor lorries and vans. This is the largest

motor fleet under one management in the U.S.A., and is engaged in the collection, delivery, and transfer of express traffic. The express system is a distinctive feature in the transport of the North American Continent.

COAL DISCOVERIES IN ARGENTINA.—South American press reports state that deposits of medium-grade coal have been discovered in the province of San Juan, north of Mendoza; production capacity is estimated at from 5,000 to 6,000 tons an acre. Final surveys and detailed investigations of this and of other deposits are said to be hampered by shortage of equipment.

Notes and News

Anti-Attrition Metal Co. Ltd.—A dividend of 5 per cent. is announced.

Central Wagon Co. Ltd.—A final dividend is announced of 9½ per cent. less tax in respect of the year ended September 30, 1942, making 12½ per cent. for the year.

Ferrocarriles de Cataluña.—Reuters states, quoting the official German news agency, that the private railway company, Ferrocarriles de Cataluña, has decided to raise its capital from 12,000,000 to 20,000,000 pesetas.

Beyer, Peacock & Co. Ltd.—Warrants will be posted on January 20 for dividend of 5½ per cent., less tax, on the preference shares for the year to June 30, 1936. A payment in respect of arrears to June 30, 1935, was made on July 21, 1942.

Canadian Pacific Railway Company.—A final dividend of 2 per cent. on the preference stock in respect of the year 1942 has been declared payable on February 1, 1943, to stockholders of record at 3 p.m. on January 1, 1943.

Hongkong & Shanghai Banking Corporation.—The first foreign bank to open an office in Free China is the Hongkong & Shanghai Banking Corporation, which is a British concern, and has an agency in China for various local railways with British capital.

Mexican Loan for Railway and Road Construction.—Reuters states that the Mexican Chamber of Deputies has authorised an internal loan of 25,000,000 pesos for the construction of railways and for repairs to rolling stock, and another of 100,000,000 pesos for road construction.

Canadian Pacific Railway.—Gross earnings for November, 1942, were \$22,415,000, an increase of \$2,207,000, and expenses were \$17,146,000, or \$2,139,000 higher. Net earnings, at \$5,269,000, were \$68,000 more than for November, 1941. For the first eleven months of 1942, aggregate gross earnings amounted to \$232,341,000, an increase of \$32,099,000, and the net earnings of \$42,993,000 were \$2,126,000 greater than for 1941.

Railway Rates Tribunal Sittings.—The Court will sit on Tuesdays, January 19, February 16, March 23, April 13, May 18, June 22, July 20, October 19, November 16, and December 14, 1943, to hear applications as to the granting of new, or the reduction of existing, exceptional rates. It will also sit on Tuesdays, January 26, April 20, July 27, and October 26, 1943, to hear applications as to classification of merchandise; applications as to reductions to be made from standard charges where damageable merchandise is carried under owner's risk conditions; and applications as to rebates under the Railway Freight Rebates Scheme.

Greenock Port and Harbours.—Application has been made to the Secretary of State for Scotland by the Trustees of the Port and Harbours of Greenock for a Provisional Order under the above title. Purposes of the Order include amendment of the Act of 1913 as to the application of the balance of rates and other revenues and to limit the amount of interest on the "B" deferred debenture stock; and power to the trustees with so much of the balance as remains after payment of such limited interest to create a fund to meet cost of certain works upon the port and harbours

and their plant and equipment. Other proposals are:—Variation of rates and charges with power to exceed existing authorised rates and charges and rates and charges to be authorised by the Order; new rates on vessels; and power to impose charges for passengers landing from or embarking on certain vessels.

Grand Canal (Eire) Charges.—Notice is given, pursuant to the Railway & Canal Traffic Act, 1888, and the Order of the Board of Trade thereunder, dated March 28, 1894, and subject to the Order of the Minister for Industry & Commerce (Eire), dated May 24, 1927, that an increase of 10 per cent., or thereabouts, in the tolls, rates, and charges of the Grand Canal Company came into force on January 1, 1943.

I.C.I. and I.C.I. (Rexine).—Holders of I.C.I. (Rexine) Limited 6 per cent. cumulative preference and 10 per cent. cumulative "B" preference shares of £1 are offered in exchange 7 per cent. cumulative preference shares of £1 of Imperial Chemical Industries Limited. The basis of exchange is three I.C.I. shares for every four Rexine 6 per cent. shares and seven I.C.I. shares for every six Rexine 10 per cent. "B" shares, fractions to be satisfied by a payment in cash.

Loudspeakers at Peterborough (North) Station.—As a result of the success which the L.N.E.R. has obtained with the use of loudspeakers at many of its main stations, Peterborough (North) Station now has been so equipped. Since December 1, two girls have been trained for the work, and they are engaged now in announcing there. They broadcast from a sound-proof kiosk a series of announcements dealing with the arrivals and departures of trains, the avoidance by passengers of careless talk, the labelling of luggage, and other matters. There are loudspeakers on the northbound, southbound, and excursion platforms.

Motor Coaches Limited.—At an extraordinary general meeting of this company held on December 8, 1942, a special resolution was passed that the company be wound up voluntarily and that Walter Edward Bennett, of Brettenham House, Lancaster Place, Strand, London, be appointed liquidator. This company is the only wholly-owned subsidiary of Tilling & British Automobile Traction Limited (now in liquidation)—owner of the whole of the issued capital of £10,725—and it has not been included in either of the two new undertakings into which the T. & B.A.T. group has now been divided. Motor Coaches Limited was registered in 1920 as a private company to carry on a motorcoach excursion and hiring business, but it has for some years past ceased to operate motorcoaches and is now engaged in petroleum haulage with a fleet of 4 tank wagons.

Trans-Zambesia Railway Co. Ltd.—Mr. Vivian L. Oury, presiding at the 22nd annual general meeting of this company, said that the surplus of receipts over expenditure for the year 1941 was £69,708 which compared with £56,362 for 1940. Interest on the £343,000 income bonds outstanding was payable out of the net earnings of the Southern Approach, and accordingly £6,365 of the total surplus of £69,708 was applied to the payment of interest on these bonds. The sovereign rights of the Companhia de Moçambique, which had during the last fifty years administered the territories in which Beira was situated, expired on July 18, 1942,

when these territories came directly under the control of the Portuguese Government. The Trans-Zambesia Company was much indebted to the Companhia de Moçambique for the assistance received from its officials in the past, and looked forward to the same cordial relations under the new administration.

Road Fund Report.—The report on the administration of the Road Fund for the year to March 31, 1942, shows that the balance in the fund at April 1, 1941, was £5,484,991 and the fund received during the year the Parliamentary Grant in Aid of

British and Irish Railway Stocks and Shares

Stocks	Highest 1942	Lowest 1942	Prices	
			Jan. 2, 1943	Rise/Fall
G.W.R.				
Cons. Ord.	58	39	57	—
5% Con. Pref.	115½	105½	112½	—
5% Red. Pref. (1950) ..	109½	103½	107	—
5% Rt. Charge	133½	123½	129½	— 1
5% Cons. Guar.	130½	121½	128	— 2½
4% Deb.	117	105	113½	— 1
4½% Deb.	118	108	113½	— 1
4½% Deb.	125	113	119½	—
5% Deb.	137	126	130½	—
2½ Deb.	77	70	75	— ½
L.M.S.R.				
Ord.	28½	16½	28	+ 1
4% Pref. (1923)	63½	63	63	+ 1
4% Pref.	76½	67½	76½	— 1½
5% Red. Pref. (1955) ..	103½	94½	101½	—
4% Guar.	104½	97½	102½	+ 1
4% Deb.	108½	101½	106½	+ ½
5% Red. Deb. (1952) ..	111	107½	108½	—
L.N.E.R.				
5% Pref. Ord.	94	2½	9	+ ½
Def. Ord.	5	1½	4½	+ ½
5% First Pref.	62	49½	61½	+ 1½
4% Second Pref.	32½	18½	31½	+ 1½
5% Red. Pref. (1955) ..	95½	79	95	—
4% First Guar.	98	88	97½	+ 1½
4% Second Guar.	90	78	89½	+ 1½
3% Deb.	85	76	82½	+ ½
4% Deb.	106½	100½	105½	— 1
5% Red. Deb. (1947) ..	106	103	104½	+ 1
4½% Sinking Fund Red. Deb.	106	102½	105½	+ 2
SOUTHERN				
Pref. Ord.	77	61½	74½	—
Def. Ord.	23½	14½	22½	+ ½
5% Pref.	112½	104	110½	+ ½
5% Red. Pref. (1964) ..	110½	105½	109½	—
5% Guar. Pref.	131	121½	128	+ 1½
5% Red. Guar. Pref. (1957) ..	115½	109½	112½	—
4% Deb.	116	104½	112	+ ½
5% Deb.	134	125½	129½	—
4% Red. Deb. (1962-67) ..	110½	106	108½	+ 1
4% Red. Deb. (1970-80) ..	111	106½	108½	+ 1
FORTH BRIDGE				
4% Deb.	109½	103	106	— 1
4% Guar.	105½	100	103½	—
L.P.T.B.				
4½% "A"	122½	111	118½	+ 1½
5% "A"	131½	122	128½	+ 1
3% Guar. (1957-72) ..	95½	97½	98	—
5% "B"	121	111½	116½	—
"C"	56½	38	55	—
MERSEY				
Ord.	27½	20½	26	—
3% Perp. Pref.	61½	56½	59	—
4% Perp. Deb.	102½	99½	100	—
3% Perp. Deb.	80½	76	78	—
IRELAND BELFAST & C.D.				
Ord.	9	4	9	—
G. NORTHERN				
Ord.	29	13	27	— 1
G. SOUTHERN				
Ord.	23	12½	20	—
Pref.	28	15	23	— 1
Guar.	51½	42	49	+ ½
Deb.	70	59	68	+ ½

§ ex-dividend

OFFICIAL NOTICES

OFFICIAL ADVERTISEMENTS

OFFICIAL ADVERTISEMENTS intended for insertion on this page should be sent in as early in the week as possible. The latest time for receiving official advertisements for this page for the current week's issue is 9.30 a.m. on the preceding Monday. All advertisements should be addressed to:—*The Railway Gazette*, 33, Tothill Street, Westminster, London, S.W.1.

FOR SALE—60 pairs secondhand main line railway wagon wheels and axles. Reply to F. A. Hodges, 113, High Street, Welling, Kent.

£8,750,000 and miscellaneous receipts of £34,680; total £14,269,671. Total payments were £9,183,609 (exclusive of recoverable expenditure incurred for other Government Departments) and the balance carried forward at March 31, 1942, was £5,086,062. Among the payments on revenue account were £6,480,604 for grants to highway authorities and £2,327,556 for trunk roads. Outstanding commitments at March 31, 1942, were estimated at £12,109,000, made up of grants to highway authorities of £8,994,000 and £3,115,000 for trunk roads.

Transport Services Limited.—A second interim dividend of 6 per cent., less tax, was paid on December 31, 1942, on the ordinary shares. No further dividend is anticipated for the year. An interim dividend had been paid of 4 per cent. less tax on May 21.

Powell Duffryn Steam Coal Co. Ltd.—Interim dividends for the year ending March 31, 1943, namely:—3 per cent. actual (less income tax at 10s. in the £) on preference and second preference shares, 2½ per cent. actual (less income tax at 10s. in the £) on preferred ordinary stock, and 1½ per cent. actual (less income tax at 10s. in the £) on ordinary stock, will be payable on January 30, 1943.

Antofagasta Railway Scheme of Arrangement.—At the adjourned meeting on December 15, 1942, of holders of the 5 per cent. debenture stock of the Antofagasta (Chili) & Bolivia Railway Co. Ltd., the proposed scheme of arrangement was approved by a majority, the only opposition having come from insurance companies. The company was unable to provide the whole of the £383,220 required for the repayment of the £306,576 of debenture stock outstanding, which was due for repayment at a premium of 25 per cent. on January 1, 1943. Stockholders were asked accordingly to agree to the scheme which proposed the payment of the premium on January 1, and the discharge of the principal money by purchase or drawings over the next ten years.

L.M.S.R. Wagon Repairs.—The need for a maximum number of wagons in service on the L.M.S.R. has led to the devising of new methods of repair to offset the shortage of new materials. Broken axleboxes, which used to be put to scrap, are now being repaired by electric arc welding, and this has resulted in an increase of more than 300 a week in the supply of axleboxes. In addition, as a result of investigation into the causes of breakdown, the life of certain types of axleboxes has been prolonged by the fitting of a steel back-plate, which not only gives additional strength, but also acts as a dust shield. The standard practice for the oiling of axleboxes has been reviewed, with the result that many thousands of gallons of oil have been saved. Timber recovered during the repair of wagons is carefully inspected and considerable quantities are now being made re-usable by

splicing. The re-painting and lettering of open wagon stock has been eliminated or reduced in size.

The Permanent Way Institution.—Mr. V. A. M. Robertson, M.C., M.Inst.C.E., Engineer-in-Chief, London Passenger Transport Board, has agreed to accept the presidency of the Permanent Way Institution for 1943. The 59th annual winter meeting of the institution is to be held at the Institution of Civil Engineers, Great George Street, Westminster, S.W.1, on Saturday, January 30, at 2.30 p.m. The retiring President (Mr. F. E. Harrison) will preside, and, after completion of the formal business, will deliver an address on "Notes on Some Current Permanent Way Topics."

Military Forwarding Services Reunion.—The Military Forwarding Services Old Comrades Association, which is composed of members of the Royal Engineers who served overseas in the last war, had planned to celebrate, in November, 1939, the coming of age of the association but the war caused a postponement. A "substitute" reunion, which proved most successful, was held in London on Saturday last, January 2, when the President, Dr. L. H. Lampitt, occupied the Chair; he was supported by Messrs. A. C. Pauling (General Secretary) and H. E. Roberts (Chairman, London Committee). The guests included Mr. J. A. Kay (Editor, *THE RAILWAY GAZETTE*) and Mr. Loftus Allen. The Secretary of the London Committee (Mr. F. S. Darby) read messages from absent members and Mr. Frank Gilbert replied to the toast (proposed by Mr. C. A. Browne) of thanks to the committee for the hospitality and entertainment provided.

Great Western Railway Ambulance Work.—The maintenance of ambulance work on the Great Western Railway during the year ended June 30, 1942, has been encouraging, notwithstanding the effect of recruitment of staff and other war activities. No less than 6,543 members of the staff passed first-aid examinations under the St. John Ambulance Association; of these, 482 were recruits to the movement. Mr. P. Anstey has succeeded Miss C. A. Ault as Centre Ambulance Secretary. Mr. J. Matthews, Divisional Superintendent's Office, Chester, has been appointed Divisional Ambulance Secretary for the Chester Division. The Athlone Bowl, awarded to the division gaining the highest percentage of new members in proportion to the total staff employed, was won by the London "A" Division, with a percentage of 1.09. The runners-up were the Plymouth Division, with a percentage of 1.08. The company's trained ambulance staff, both men and women, during the year have rendered valuable services in connection with A.R.P. duties, casualty clearing stations, and first-aid posts; and in the instruction of classes. Many reports of exceptionally-efficient first

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aid, rendered by members of the staff, were received; and the following awards were granted:—

Gold Medal: Mr. Charles J. Hewlett, Engineman, Pontypool Road.
Silver Medal: Mr. James A. Neal, Carriage Examiner, Penzance.

Bronze Medals: Messrs. Samuel P. Davy, Weigh-bridgeman, Newport Docks; James Selfe, Shunter, Newport Docks; and Percy G. Vines, Parcels Porter, Chippenham.

Certificates: Messrs. Patrick J. Walsh, Shunter, Newport Docks; David G. Thomas, Shunter, Newport Docks; Edward W. Beauchamp, Porter, Cogan; Sidney H. Jenkins, Head Shunter, Trowbridge; Arthur J. Rosewarne, Bridge Repairer, Taunton; Arthur H. Minett, Station Foreman, Abercynon; Charles E. Jones, Ticket Collector, Newport (High Street); Frederick J. Bishop, Yard Inspector, Westbury.

Contracts and Tenders

The Bengal-Nagpur Railway has placed a contract with Robert Stephenson & Hawthorns Limited for 15 "L" class boilers.

The following contracts have been placed recently by the Egyptian State Railways:—

Buck & Hickman Limited: Braces, satchet, Edward & William Lucas Limited: Shovels Norton Grinding Wheel Co. Ltd.: Hand tools.

Richard Melhuish (London) Limited: Hand tools.

Consolidated Pneumatic Tool Co. Ltd.: Hand tools.

Thorn & Hoddle Limited: Nipples for burner.

Premier Lamp & Engineering Co. Ltd.: Acetylene lamps.

English Electric Co. Ltd.: Electrical welding plant.

Associated Lead Manufacturers Limited: Antimony.

British Insulated Cables Limited: Solder.

Pilkington Bros. Ltd.: Glasses.

Sherwoods Limited: Brass burners.

Lamp Manufacturing & Railway Supplies Limited: Spare globes.

The Tilley Lamp Company: Lamps and stoves.

E. M. Richard Limited: Printing and binding materials.

B. T. Batsford Limited: Books.

Mond Nickel Co. Ltd.: Nickel "F" shot.

Ericsson Telephones Limited: Carbon protector.

Lehmann, Arthur, & Lane Limited: Taps.

Alfred Herbert Limited: Dies.

Pickford Tool Co. Ltd.: Taps.

India Rubber Gutta Percha & Telegraph Works Co. Ltd.: Non-inflammable rubber solution.

Brown & Polson Limited: Dextrine.

Thos. Firth & John Brown Limited: Segmental saws.

National Gas & Oil Engine Co. Ltd.: Machinery spares.

Hayes Track Appliances: Derails.

I.C.I. (Rexine) Limited: Rexine.

Capprotti Valve Gears Limited: Inlet levers.

William Jacks & Co. Ltd.: Zinc ingots.

London Zinc Mills Limited: Zinc sheets.

Associated Lead Manufacturers Export Co. Ltd.: Lead sheets and sleeves.

Workington Iron & Steel Company: Ferro-manganese.

H. J. Evans & Co. Ltd.: Ferro-silicon.

Phosphor Bronze Co. Ltd.: Phosphor copper.

I.C.I. (Metals) Limited: Copper plates and bars.

Railway Stock Market

More active conditions have developed in most sections of the stock and share markets, and, at the time of writing, home railway securities have provided an outstanding feature of strength. The weight of money seeking investment, and the forthcoming reinvestment of proceeds arising from the calling up of South African stocks, were important factors in the gilt-edged market. Among high-class investment securities, prior charges of the main-line railways have also been in steady demand, it being realised that current yields compare favourably with those on many other front rank investment stocks. The return on Great Western 4 per cent. debentures is $3\frac{1}{2}$ per cent., that on the guaranteed stock over $3\frac{1}{2}$ per cent., and on the 5 per cent. preference approximately $4\frac{1}{2}$ per cent. Southern 5 per cent. preference returns nearly $4\frac{1}{2}$ per cent., L.M.S.R. guaranteed over $3\frac{1}{2}$ per cent., and L.N.E.R. first and second guaranteed, 4 per cent. and nearly $4\frac{1}{2}$ per cent., respectively.

Demand for junior stocks has been widespread and is justified by the generous yields, apart from the continued talk of the possibility of small increases in the forthcoming dividends on Great Western and L.M.S.R. ordinary and L.N.E.R. second preference, views in connection with which have been mentioned recently in these notes.

It is now being suggested in some quarters that a fractionally better payment may also be forthcoming on Southern deferred. The fact that until at least one year after the war dividend payments on the above stocks will be assured by reason of the financial agreement with the Government, and that current yields are still in excess of those obtainable on any other group of active equity securities, explain the further rise in home railway juniors. In most cases prices are still below the highest levels recorded in 1938, and a good proportion of recent demand has been on the part of investors prepared to regard these stocks as investments for more than a very short period. On the other hand, with the approach of the February dividend announcements there has been not unnaturally an increase of speculative activity. It must be pointed out that the sharp gains recorded in L.N.E.R. preferred and deferred can be justified only if a very long view be taken, because during the currency of the financial agreement with the Government there can be no question of any dividend payments on these stocks.

Compared with a week ago, Great Western ordinary has risen further from $57\frac{1}{2}$ to $58\frac{1}{2}$ at the time of writing, and the 5 per cent. preference gained a point at 114. L.M.S.R. ordinary advanced to $29\frac{1}{2}$, which

compares with $27\frac{1}{2}$ a week ago, and the 1923 preference was a point better at 64, and the senior preference fractionally higher at $76\frac{1}{2}$. Investment demand improved L.N.E.R. first guaranteed to $98\frac{1}{2}$ and the second guaranteed to $90\frac{1}{2}$; the first preference was 63, as compared with $61\frac{1}{2}$ a week ago, and the second preference improved further from $31\frac{1}{2}$ to 33. L.N.E.R. preferred showed a gain from $8\frac{1}{2}$ to $11\frac{1}{2}$, and the deferred from $4\frac{1}{2}$ to $5\frac{1}{2}$. Among Southern stocks the preferred was $75\frac{1}{2}$, compared with $74\frac{1}{2}$ a week ago, the deferred 24, compared with $22\frac{1}{2}$; the 5 per cent. preference was higher at $111\frac{1}{2}$. Elsewhere, London Transport $4\frac{1}{2}$ per cent. "A" moved higher to 119; the "C" stock was $55\frac{1}{2}$, compared with $54\frac{1}{2}$ a week ago.

Foreign railway stocks have shown no very decided trend at the time of writing. Those of the Argentine companies tended to be affected by the British note to the Argentine Government on neutrality. Ordinary stocks of B.A. Gt. Southern, B.A. Western, and Central Argentine eased. On the other hand, Entre Rios first preference improved to 17, and Central Argentine $4\frac{1}{2}$ per cent. preference was better at 19, as were the 4 per cent. debentures at 45. Elsewhere, San Paulo ordinary had a firm appearance at 58. United of Havana debentures eased to $47\frac{1}{2}$. Canadian Pacifics were also easier, but the debentures and preference stocks made higher prices.

Traffic Table and Stock Prices of Overseas and Foreign Railways

Railways	Miles open	Week Ending	Traffic for Week		No. of Weeks	Aggregate Traffic to date			Shares or Stock	Prices			
			Total this year	Inc. or Dec. compared with 1941		Totals		Increase or Decrease		Highest 1942	Lowest 1942	Jan. 2, 1943	Yield % (See Notes)
						1942	1941						
South & Central America													
Antofagasta (Chili) & Bolivia	834	27.12.42	£ 26,760	- £ 1,440	52	£ 1,150,320	£ 1,031,830	+ £ 118,490	Ord. Sk.	14	7½	10½	Nil
Argentine North Eastern	753	26.12.42	10,098	+ 2,130	26	341,838	293,184	+ 48,654	"	19½	3	18½	Nil
Bolivar	174	Nov., 1942	6,380	+ 1,690	48	53,519	43,194	+ 10,325	6 p.c. Deb.	20½	9	20½	Nil
Brazil	2,807	26.12.42	108,840	+ 23,160	26	2,341,140	2,043,780	+ 297,360	Bonds	20½	9	20½	Nil
Buenos Ayres & Pacific	5,080	26.12.42	163,080	+ 3,780	26	3,725,580	3,471,180	+ 254,400	Ord. Sk.	7½	4	6	Nil
Buenos Ayres Great Southern	1,930	26.12.42	57,600	+ 12,300	26	1,353,840	1,291,500	+ 62,340	Ord. Sk.	12½	7½	12½	Nil
Buenos Ayres Western	3,700	26.12.42	137,400	+ 34,350	26	3,287,982	2,747,313	+ 540,669	"	12½	6	12½	Nil
Central Argentine	972	12.12.42	26,719	+ 5,896	24	528,843	544,528	- 15,685	"	9½	5	3½	Nil
Do.	262	Oct., 1942	13,131	+ 9,031	13	51,375	91,158	- 39,783	Ord. Sk.	8	4	5	Nil
Dorada	70	Nov., 1942	16,530	+ 3,470	48	173,705	136,030	+ 37,675	"	15½	11	14	Nil
Entre Rios	808	26.12.42	17,178	+ 5,634	26	476,412	423,822	+ 52,590	1 Mt. Db.	90½	89	86½	6½
Great Western of Brazil	1,030	26.12.42	16,600	+ 5,500	52	625,200	536,900	+ 88,300	Ord. Sk.	9½	4½	7½	Nil
International of Cl. Amer.	794	Nov., 1942	\$481,524	+ \$50,446	46	\$5,554,318	\$5,097,659	+ \$456,659	Ord. Sh.	33½	9	39½	Nil
Interoceanic of Mexico	22½	Nov., 1942	8,885	+ 1,960	48	80,810	72,370	+ 8,440	1st Pref.	11	5½	2	Nil
La Guaira & Caracas	319	26.12.42	42,668	+ 8,768	52	1,586,594	1,382,049	+ 204,545	5 p.c. Deb.	11½	5	8½	Nil
Leopoldina	483	21.12.42	ps. 306,500	+ ps. 35,800	26	ps. 7,136,100	ps. 7,395,000	- ps. 258,900	Ord. Sk.	1	½	½	Nil
Mexican	382	15.12.42	4,610	- 2,874	51	182,165	140,387	+ 41,778	Ord. Sk.	77½	63½	71½	3½
Midland of Uruguay	319	Oct., 1942	13,987	- 470	19	49,979	54,791	- 4,812	Ord. Sh.	53	40	50½	11½
Nitrate	274	25.12.42	\$4,933,000	+ \$2,240,000	24	\$99,090,000	\$91,188,000	+ \$7,902,000	Pr. Li. Pref.	19½	58	100½	7½
Paraguay Central	1,059	Nov., 1942	77,634	+ 14,137	19	414,622	355,843	+ 58,779	"	59	41	58	3½
Peruvian Corporation	100	Oct., 1942	£ 53,000	+ £ 18,000	18	£ 236,000	£ 191,172	+ £ 44,828	Ord. Sh.	41½	23½	32½	Nil
Salvador	153½	20.12.42	38,879	+ 2,233	52	1,884,755	1,865,805	+ 18,950	Ord. Sk.	8½	2½	8	Nil
Taltal	160	Nov., 1942	5,563	+ 2,233	21	25,403	25,330	+ 73	Ord. Sh.	8½	2½	8	Nil
United of Havana	1,346	26.12.42	59,121	+ 37,366	26	1,124,141	502,323	+ 621,818	Ord. Sk.	2½	6½	2	Nil
Uruguay Northern	73	Oct., 1942	1,425	- 38	19	4,730	5,392	- 662	"	—	—	—	—
Canada													
Canadian Pacific	17,039	14.12.42	1,095,600	+ 142,200	50	48,650,200	41,934,400	+ 6,715,800	Ord. Sk.	16½	9½	17	Nil
India													
Barsi Light	202	Oct., 1942	13,747	- 255	30	106,747	101,002	+ 5,745	Ord. Sk.	372	333	—	—
Bengal & North Western	2,090	Oct., 1942	184,425	+ 78,594	4	184,425	263,019	- 78,594	"	102½	88	100½	7½
Bengal-Nagpur	3,267	10.8.42	274,725	+ 10,341	19	3,712,696	3,407,058	+ 305,638	"	105½	87	106½	4
Madras & Southern Mahratta	2,939	31.7.42	341,625	+ 133,549	18	2,714,939	2,473,086	+ 241,853	"	357	338	—	—
Rohilkund & Kumaon	571	Oct., 1942	60,375	+ 10,969	4	60,375	49,405	+ 10,969	"	103½	88½	101½	4½
South Indian	2,402	31.7.42	197,725	+ 31,400	18	2,246,577	1,759,595	+ 486,982	"	—	—	—	—
Various													
Egyptian Delta	607	20.10.42	13,364	+ 1,277	31	224,460	157,047	+ 67,413	Pr. Sh.	5½	1½	3½	Nil
Manila	277	Oct., 1942	35,093	+ 12,188	14	119,414	81,882	+ 37,532	B. Deb.	45	35	42	8½
Midland of W. Australia	1,900	29.7.42	51,026	+ 12,476	19	1,212,844	1,122,822	+ 90,022	Inc. Deb.	95	90	92	6
Nigerian	13,291	14.11.42	789,575	+ 15,752	34	25,695,697	24,696,661	+ 999,036	"	—	—	—	—
South Africa	4,774	Sept. 1942	1,380,155	+ 327,758	—	—	—	—	"	—	—	—	—
Victoria	—	—	—	—	—	—	—	—	"	—	—	—	—

Note. Yields are based on the approximate current prices and are within a fraction of $\frac{1}{4}$ per cent.
† Receipts are calculated @ 1s. 6d. to the rupee

Argentine traffic is given in sterling calculated @ 16½ pesos to the £
§ ex dividend